

PROCEEDINGS

of the

American Society

of

Civil Engineers

INSTITUTED 1852

VOL. 56

SEPTEMBER, 1930

No. 7

CONTENTS

Society Affairs.....	Page 221
Applications for Admission and Transfer.....	Page 299
Papers, Reports, Discussions, and Memoirs.....	Page 1503

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SOCIETY AFFAIRS

CONTENTS

Items of Interest:

	PAGE
"Proceedings"—The Basic Publication of the Society.....	221
Bureau of Reclamation Initiates Study of Cracks in Dams.....	221
Make Use of Your Society Headquarters.....	222
Sixth International Road Congress.....	222
Appointments of Society Representatives.....	222
Development of New York Port.....	223
Local Section Prizes to Student Chapters.....	223
Freeman Traveling Scholarship, 1930-1931.....	223
Library of Engineering History.....	224
Election of Officers, Philadelphia Section.....	224
European Students Pay Return Visit.....	224
Standard Navigational and Topographic Symbols.....	224
Report of Tellers on First Ballot for Official Nominees.....	225
Minutes of Meetings of Board of Direction, July 7 and 8, 1930.....	226
Minutes of Meeting of Executive Committee, August 11, 1930.....	228

Local Sections:

Colorado.....	229
Georgia.....	229
Los Angeles.....	229
Sacramento.....	229

Engineering Societies Library.....	230
------------------------------------	-----

Current Civil Engineering Literature.....	233
---	-----

Employment Service.....	241
-------------------------	-----

Membership.....	243
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AMERICAN SOCIETY OF CIVIL ENGINEERS

PROCEEDINGS

VOL. 56

SEPTEMBER, 1930

No. 7

SOCIETY AFFAIRS

PROCEEDINGS—THE BASIC PUBLICATION OF THE SOCIETY

With this issue the department of "Society Affairs" bows itself out of *Proceedings* to find more elbow room within the covers of the new publication *Civil Engineering*. Beginning with the October number, *Proceedings* will henceforth appear on your desk on or about the fifteenth of each month. Its younger sister, *Civil Engineering*, is expected to make its premier appearance on October 1 and will appear on the first of each month thereafter.

How will the new arrangement affect *Proceedings*?

In 1868, the late Charles Paine, Past-President, Am. Soc. C. E., expressed the following important sentiment:*

"I believe the Society aims * * * to make its endorsement of an engineer of value, and almost indispensable to professional respectability. Now the United States extends over so large an area that this will not be possible unless the Society gives the very strongest evidences of its strength and usefulness, or unless it counts as members all the really able and distinguished engineers of the country. First, then, the able men who have started it have got to put forth all their energies for its advancement by * * * contributing their best papers to its meetings, which should be published promptly and sent to members."

Since 1872, the Society has made it a practice to publish such papers and the roster of distinguished engineers who have contributed bears ample testimony to the wisdom of Mr. Paine's advice. The content of papers in *Proceedings* has always been rigorously technical in nature. The object has always been to

encourage authors to contribute to the record from their personal knowledge and experience, those elements of lasting value from which later progress could be safely extended. In papers published in *Proceedings* it has been possible to struggle with, dissect, and examine the fundamental theories; members have been given opportunities to study origins as well as to offer new suggestions for future practice in the related fields of civil engineering theory and practice.

The Society has grown in membership from 300 to 14 500 in round numbers during the 58 years in which *Proceedings* has been published; officers have changed; and, necessarily, Society policies have similarly changed. Nevertheless, the ideal for papers in *Proceedings* has remained basically the same. Indeed, it is hoped that, with the new plan, it will be possible to "hew to the line" in the future even more consistently than in the past, deflecting the information of less studious nature and of transient interest into the new publication. When material is presented that should be saved to the Profession and in a form subjected to the piercing analysis and criticisms of the discussions elicited, every effort will be made to find room for it in *Proceedings* and *Transactions*.

Proceedings will remain the basic medium of the Society's contribution to engineering literature.

BUREAU OF RECLAMATION INITIATES STUDY OF CRACKS IN DAMS

The U. S. Bureau of Reclamation, under the directorship of Elwood Mead,

* "Historical Sketch of the American Society of Civil Engineers", by Charles Warren Hunt, M. Am. Soc. C. E., 1897, p. 41.

M. Am. Soc. C. E., has begun a study of cracks in dams. This is the result of recommendations made by the Boulder Dam Consulting Board. H. M. Westergaard, M. Am. Soc. C. E., who has been placed in charge of this work, has been busy visiting existing dams that seem to offer the best source of information on this subject. The study will be extremely helpful in furthering the technical knowledge relating to safety in the construction of dams.

MAKE USE OF YOUR SOCIETY HEADQUARTERS

Many members pass through New York at one time or another and while the Register in the Reading Room at Society Headquarters shows the names of members from near and far who have used the facilities of the Society during their sojourn in town, there may be many more who would use Headquarters if they realized the service maintained there for them. Engineering Societies Building, 33 West 39th Street, is practically midway between the Grand Central Terminal and the Pennsylvania Station and is within easy walking distance from each.

On the Fifteenth Floor will be found a spacious and pleasant Reading Room. It has long French windows facing out on small balconies that afford interesting views of the city. The shelves, which line the walls of the Reading Room, are filled with many books of interest to engineers. In fact, all the new books are kept there for a while before being sent to the Engineering Societies Library to form part of the permanent collection. The ladies are welcome, too, and there are some non-technical books which they may peruse with pleasure and profit. On the paneled walls of the Reading Room will be found an interesting collection of the photographs of all the Past-Presidents of the Society.

In addition, there are well-stocked writing tables, easy chairs, and a plentiful supply of technical and popular magazines, including the daily newspapers; there is a telephone in a private booth; and information is available concerning current events—technical society meetings, lectures, theatres, opera, concerts, etc. The room is open from 9:00 A. M. to 5:00 P. M. and later on Society Meeting nights. The Library on the Thirteenth Floor is open until 10:00 P. M., and contains many interesting and historic treasures.

Those who call en route for foreign parts are supplied with letters of introduction—general or specific—as the case may be, which are found most helpful. The Society has contacts all over the world.

The Reading Room may be made a rendezvous for meeting your friends, receiving your mail, and calling on the Staff for assistance.

SIXTH INTERNATIONAL ROAD CONGRESS

At the Cleveland Meeting on July 7, 1930, the Board of Direction voted to accept the invitation to become a Patron of the Permanent International Association of Road Congresses. This organization has its central headquarters in Paris, France; the forthcoming meeting in Washington, D. C., on October 6 to 11, 1930, promises to be of more than usual interest.

At the present writing, more than 50 nations have accepted the invitation of the United States Government to send delegates. Discussion at the various sessions will center about 76 reports printed in French, German, Spanish, and English. These represent the studied opinions of 170 of the principal world authorities on the moot questions of highway construction, design, materials, maintenance, administration, finance, and traffic.

The dates of the Society's Meeting at St. Louis, Mo., October 1, 2, and 3, have been fixed to provide, with those of the Road Congress, October 6 to 11, at Washington, an opportunity for attendance at both meetings with the expenditure of a minimum of time.

APPOINTMENTS OF SOCIETY REPRESENTATIVES

Among those recently appointed to represent the Society may be noted the following:

On John Fritz Medal Board of Award: John F. Coleman, President, Am. Soc. C. E., to fill the vacancy caused by the expiration of the term of George S. Davison, Past-President, Am. Soc. C. E.

On Committee on Dams: Thaddeus Merriman, D. C. Henny, J. B. Lippincott, H. de B. Parsons, Silas H. Woodard, and Charles B. Wing, Members, Am. Soc. C. E.

On Public Educational Committee: W. D. Binger, M. Am. Soc. C. E.

On Research Committee: V. R. Covell, M. Am. Soc. C. E.

On Joint Committee on Standard Specifications for Concrete and Reinforced Concrete: W. A. Slater, F. E. Richart, W. S. Thomson, Members, Am. Soc. C. E., and M. N. Clair and A. E. Lindau, Assoc. Members, Am. Soc. C. E. These appointments fill vacancies caused by resignations of Messrs. Sanford E. Thompson and Franklin R. McMillan, and the death of Milton H. Freeman, M. Am. Soc. C. E. Messrs. Slater and Lindau are former appointees.

At Second World Power Conference, Berlin, June, 1930: A. P. Davis, John R. Freeman, Leroy Francis Harza, Ely C. Hutchinson, O. C. Merrill, William S. Monroe, George A. Orrok, David B. Rushmore, Charles W. Spencer and William F. Uhl, Members, Am. Soc. C. E., Edmund W. Bowler and T. W. Norcross, Assoc. Members, Am. Soc. C. E., and F. B. Campbell, Jun. Am. Soc. C. E.

DEVELOPMENT OF NEW YORK PORT

An interesting account, describing the "Development of Transportation in the Port of New York District", from the standpoint of an engineer, has recently been issued by the Museum of Peaceful Arts. This account is the work of Billings Wilson, M. Am. Soc. C. E., who has been intimately connected with the project in question for several years.

The paper is the outcome of a meeting held in March, 1930, sponsored jointly by the Museum of Peaceful Arts, and several of the Founder Societies, at which Mr. Wilson described his subject with considerable success, so much so in fact that there was a large demand for reprints. This the Museum of Peaceful Arts has succeeded in supplying, giving the address in full, together with many interesting photographs and diagrams which accompanied it originally.

To a student of this subject the resulting pamphlet of forty pages will prove quite interesting and invaluable in its historic possibilities. Requests for copies will be honored by the Museum of Peaceful Arts, by addressing it at the News Building, East 42d Street, New York, N. Y.

LOCAL SECTION PRIZES TO STUDENT CHAPTERS

The practice of Local Sections in awarding prizes to outstanding members of Student Chapters continues to be a popular Society activity. The prize usu-

ally consists of Junior membership in the Society, the first year's dues, the initiation fee, or each of these items complete, according to the particular Section making the award. Near commencement time this year, 18 Local Sections awarded Junior prizes to 39 students, most of whom have already submitted their applications to Headquarters; 28 Universities and Engineering Colleges are represented.

The names of the prize winning students and the awarding Local Sections are as follows:

Arizona.....	D. K. Conger
Cleveland.....	R. R. Wilson
Central Illinois...	M. T. Chinn
Detroit.....	W. E. LaBelle
Iowa.....	F. J. Howell
	H. D. Fritz
	F. W. Ashton
	E. K. Alexander
	Carl Anderson
	C. B. Cox
Illinois.....	J. W. Hurley
	L. F. Kirkley
	B. D. Murphy
	Bror Nordberg
	C. J. Scheve
	G. E. Marple
Kansas State....	G. R. Vanderpool
Lehigh Valley....	W. M. Moyer
	A. W. Holmes
	P. A. Weber
Louisiana.....	G. A. Denham
	L. R. Shellenberger
Northwestern....	R. E. Hertel
	S. E. Breth
Philadelphia.....	E. D. Smith
	F. J. Kish
Pittsburgh.....	M. A. Gross
	A. F. Johnson
Portland, Ore....	M. R. Johnson
	Meyer Samuel
Rochester.....	James Owen
San Francisco....	G. A. Chester
	J. S. Hamilton
Spokane.....	J. H. Heckathorn
	E. B. Murer
Utah.....	L. M. Engstrom
	J. A. Rust
Virginia.....	D. B. Cook
	C. A. Schoene

FREEMAN TRAVELING SCHOLARSHIP, 1930-1931

In March, 1927, the Society announced the creation of the John R. Freeman Traveling Scholarship Fund "for the encouragement of young engineers" who were qualified for study and travel in Europe. Since that time there has been

one or more of the successful candidates always busy gleaning all manner of valuable information from contacts abroad. The results must seem highly satisfactory to the donor of this generous gift when it is noted that each young man has returned to a relatively responsible position.

The successful candidate this year is Lieut. Hans Kramer, Corps of Engineers, U. S. Army. He is to leave New York, September 13, 1930, on the steamer *George Washington*. For a considerable time Lieut. Kramer was Professor of Military Science and Tactics, in charge of engineers, Reserve Officers Training Corps Unit, California Institute of Technology.

LIBRARY OF ENGINEERING HISTORY

A worth while gift in American engineering has recently come to Purdue University in the form of a large addition to its library. This is, in fact, in two parts, consisting of the entire library of the late Dr. W. F. M. Goss and second, a fund of \$20 000 as an endowment. These gifts are from Dr. Goss' widow.

From the standpoint of its source this benefaction is significant. Many years Dr. Goss devoted to teaching engineering, beginning as far back as 1879, and continuing through various positions in Purdue University and the University of Illinois until 1917. At that time he became President of the Railway Car Manufacturers Association. This latest gift to engineering, therefore, will be in the nature of a perpetuation of his former efforts.

Such a library will form a storehouse for engineering thought and literature. To it will probably come other additions in the course of time, both from the returns of this endowment and from other benefactors.

ELECTION OF OFFICERS, PHILADELPHIA SECTION

In reporting news from the Local Sections in the August *Proceedings* an error crept into the item concerning newly elected officers of the Philadelphia Section. The correct list of officers elected June 2, 1930, is as follows: President, William R. Scanlin; Vice-President, Charles S. Shaughnessy; Secretary-Treas-

urer, George H. Shaw; and Directors, Charles A. Howland and Clarence E. Myers.

EUROPEAN STUDENTS PAY RETURN VISIT

Much is said concerning the annual exodus of American students to Europe each summer. There is an equally interesting influx of European students, although their number is probably less.

Through an agreement between officials of the Liverpool Engineering Society, the American Society of Mechanical Engineers, and the White Star Line, it has been possible for a number of engineering students of Liverpool University to inspect manufacturing and operating industries as well as large research laboratories in this country. Since the beginning of this practice in 1926 by Liverpool University several other English universities, including Oxford, Cambridge, and Leeds, have made similar agreements with the White Star Line. En route, students are required to do such work as will in part repay the Steamship Company for the service which it offers. This work, covering a period of three weeks, gives the students actual engineering and operating experience under supervision of the Chief Engineer.

Upon arrival in New York, students in the various branches of engineering, including mechanical, electrical, civil, and architectural, report at Society Headquarters where they receive letters of introduction to the proper heads of the industrial and engineering projects in which they are interested.

About twelve students are selected each year to make these trips, arriving during the summer at weekly intervals. The White Star Line offers a prize each year for the best paper on the student's experiences.

STANDARD NAVIGATIONAL AND TOPOGRAPHIC SYMBOLS

The American Standards Association has announced the general approval of an "American Tentative Standard" for navigational and topographical symbols. These Standard Symbols have now received the unqualified approval of thirty-eight technical societies, bureaus, and agencies that will have occasion to make use of them. For further information address Mr. F. J. Schlink, 29 West 39th Street, New York, N. Y.

Report of Tellers on First Ballot for Official Nominees

"33 West 39th Street, New York, N. Y.,

"August 1, 1930.

"TO THE SECRETARY,

AMERICAN SOCIETY OF CIVIL ENGINEERS:

"The Tellers appointed to canvass the First Ballot for Official Nominees report as follows:

"Total number of ballots received..... 1 221

"Deduct:

Ballots from members in arrears of dues..... 70

" without signature 5

"Total not entitled to vote..... 75

"Ballots canvassed 1 146

"For Vice-President, Zone II:

John N. Chester..... 457

Scattering 41

Blank 19

Total 517

"For Vice-President, Zone III:

George H. Fenkell..... 446

Henry M. Waite..... 74

John V. Hanna..... 53

Scattering 55

Void 1

Total 629

"For Directors, District 1:

(Two to be elected)

L. G. Holleran..... 219

C. A. Mead..... 216

Scattering 101

Total *271

"For Director, District 6:

Edwin K. Morse..... 50

Thomas J. Wilkerson..... 45

Scattering 22

Blank 29

Total 146

"For Director, District 2:

Henry R. Buck..... 136

Scattering 10

Total 146

"For Director, District 10:

H. D. Mendenhall..... 53

D. H. Wood..... 12

J. H. Johnston..... †7

Scattering 34

Blank 15

Total 121

"For Director, District 13:

Frederick C. Herrmann..... 65

Thomas E. Stanton, Jr..... 6

Scattering 20

Total 91

"Respectfully submitted,

"ALBERT B. HAGER, *Chairman*,

THOMAS K. A. HENDRICK,

E. H. ALDRICH,

JAMES H. FITZGERALD,

"L. L. MELIUS, *Vice-Chairman*,

HARRISON TILGHMAN,

P. T. COONS,

RICHARD L. SENIOR,

"Tellers."

* Number of valid ballots cast, on most of which were two nominations for Director.

† Ineligible for re-election.

Meetings of the Board of Direction

This is an abstract of the notes of the Secretary and subject to approval by the Board of Direction at its next meeting.

The Board met at the Hotel Cleveland, Cleveland, Ohio, on July 7 and 8, 1930, at the time of the Annual Convention; President J. F. Coleman in the chair; George T. Seabury, Secretary; and present, also, Messrs. Dougherty, Dusenbury, Dyer, Eddy, Fowler, Hammond, Howe, Jacobs, Johnston, Knowles, Lupfer, MacCrea, Marston, Morris, Nicholson, Pirnie, Reichmann, Singstad, Slattery, Stevens, Thomas, and Winsor.

Approval of Minutes of Board

The minutes of the meeting of the Board of Direction held on April 21 and 22, 1930, were approved.

200th Anniversary of the Birth of George Washington

A letter from the George Washington Bicentennial Commission requesting support in the observance of the Anniversary was presented and, after discussion, the project was approved in principle, and power was granted the Executive Committee as to the form of expression.

John Fritz Medal Board of Award

President Coleman was appointed as one of the Society's four representatives on the John Fritz Medal Board of Award to take office at the expiration of the term of Past-President George S. Davison in October, 1930.

Committee on Districts and Zones

The report of the Committee on Districts and Zones recommending certain changes in District and Zone boundaries to provide for an additional Director in accordance with the Constitutional Amendment adopted in March, 1930, was approved.

Roy Gotsworth Gowdy, M. Am. Soc. C. E., of Denver, Colo., was appointed Director for the term ending at the time of the Annual Meeting of the Society in January, 1932.

Committee on Professional Conduct

The Committee on Professional Conduct reported on four matters it had considered, which, after discussion, were acted upon by the Board.

Research Committee

The Research Committee reported that it had met in Pittsburgh, Pa., on June 17, 1930, and, among other things, had discussed the desirability of

prompt publication of stream flow data by the U. S. Geological Survey. The following resolution was adopted with reference to the matter and ordered sent to the American Engineering Council for similar action if practicable:

"Whereas the United States Geological Survey has been, for many years past, the authorized agent of the Federal Government in the collection and publication of stream flow records; and

"Whereas the prompt publication of such records is of the utmost importance to industrial developments dependent upon water supplies and to the engineers engaged in that class of work and any delay in publication means a definite economic loss; and,

"Whereas publication of these records in the Water Supply Papers of the Geological Survey has been long delayed, and is now about four years in arrears for the entire United States,

"Now, Therefore, Be It Resolved that the Board of Direction of the American Society of Civil Engineers requests the Secretary of the Interior and the Director of the Geological Survey to expedite the publication of these back records in every way possible, and particularly by introducing and urging the passage of necessary appropriations—either regular or deficiency—needed to finance such publication; and,

"Be It Further Resolved, that since publication of many, if not all, of these back records, constitutes an obligation already assumed by the Geological Survey under co-operative agreements with States and other agencies, the Director of the Geological Survey be requested to give precedence in publication to Water Supply Papers, which come under such contractual obligations and to delay, if necessary, those less urgent papers comprising Professional Papers, Bulletins, and Water Supply Papers dealing only with special subjects, and proportionately increase the allotment, from the regular printing appropriation, for Surface Water Supply Papers, until these records are brought up to date."

The Research Committee also recommended that a Special Committee on Hydraulics be created to be composed of three members, the Chairman to be appointed by the Board of Direction, the two other members to be the Chairmen of the Special Committee on Irrigation Hydraulics and of the Special Committee on Dams.

The foregoing recommendation was approved, and an appropriation of \$500 was made for the new Committee.

Committee on Functional Expansion Program

Among the items acted on by the Board on the recommendation of the Committee on Functional Expansion Program were matters relating to competition of Governmental subdivisions with private engineering practice; free engineering advice by corporations; and better recognition of the profession in various ways.

Committee on Salaries

The Committee on Salaries reported on its activities in conducting a study of engineering organizations, classification of engineers, duties, salaries, etc., and an appropriation of \$600 was granted to the Committee for sending out a questionnaire on the subject.

Committee on Fees

On the recommendation of the Committee on Fees, a substitute statement on "Building Construction" was approved for inclusion in the report of the Committee that was adopted by the Board at its April meeting.

An abstract of the Committee's report for the use of clients was also presented to the Board for possible adoption.

An abstract of a brief further report of the Committee, showing the partial results of its endeavors to ascertain what consulting engineers all over the country are receiving as per diem fees, was also presented.

Committee on Publications

In accordance with the recommendation of the Committee on Publications, Memoirs will be published only in *Transactions*, extra copies being ordered for the friends and relatives of the deceased member.

The Committee also outlined the plans for the new magazine, *Civil Engineering*, and authority was granted for the negotiation of the contracts necessary for the production of this new publication.

Meeting of Executive Committee

This is an abstract of the notes of the Secretary and subject to approval by the Executive Committee at its next meeting.

The Executive Committee met on August 11, 1930, at Society Headquarters; President J. F. Coleman in the Chair; George T. Seabury, Secretary; and present also Messrs. Bush, Dougherty, Winsor, Treasurer Hovey and Mr. Charles A. Baxter, the Society's Counsel. Several matters relating to Society business were considered.

Local Sections*

Colorado.—June 9, 1930. The following officers of the Section have been elected for the ensuing year: President, Norman W. Funk; Vice-President, C. L. Eckel; and Secretary-Treasurer, Lyman F. Copeland.

Georgia.—August 4, 1930. A meeting was held at the Athletic Club in Atlanta. Routine matters were disposed of, after which George L. Reed, Regional Structural Engineer of the Portland Cement Association, presented a paper on "Combinations of Steel and Concrete." A discussion of the subject led by Robert G. Love, Structural Engineer, concluded the meeting. Attendance 25.

Los Angeles.—July 19, 1930. A program of entertainment for the afternoon and evening was arranged for this meeting of the Section at Long Beach, Calif. A trip of inspection to the United States Navy airplane carrier, *Saratoga*, and swimming, golf, and bridge were featured. Dinner was served at Recreation Park Club House; music and fancy dancing entertained the diners, and the remainder of the evening was spent in bridge.

Sacramento.—May 20, 1930. Wallace Mason, of the California Corrugated Culvert Company, showed motion pictures of the "Continuous Mill Process as Developed by the American Rolling Mills Company." Attendance 58.

May 27, 1930. This meeting was devoted to a discussion of the city's proposed \$450 000 bond issue for repairs to the filtration plant and development of the municipal airport. Attendance 53.

June 3, 1930. The Section went on record as refusing to endorse the proposed bond issue for repairs to the city's filtration plant and development of the airport. T. H. Dennis, Maintenance Engineer of the State Division of Highways, read an illustrated paper on "Snow Removal." Attendance 47.

June 10, 1930. Mr. Ivan M. Nelidov addressed the meeting on "Engineering Education and Conditions Under Which Engineers Work in Russia." Attendance 36.

June 17, 1930. Edward Hyatt, State Engineer, addressed the meeting on "Water Resources Investigations by the State." Attendance 46.

June 24, 1930. This was the 350th regular weekly meeting of the Section. George E. Goodall, of the State Division of Engineering, read a paper on "History of the Development of Concrete Arch Dams." Attendance 45.

July 1, 1930. D. L. Joslyn, Designer of Locomotives at the Sacramento Shops of the Southern Pacific Railroad Company, read a paper on "The Evolution of the Locomotive," illustrated by lantern slides. Attendance 46.

July 8, 1930. "The Deep-Water Channel to Stockton" was the subject of a talk by Maj. J. R. D. Matheson, U. S. Army Engineers. Attendance 33.

July 15, 1930. R. D. Goodrich, Professor of Civil Engineering at the University of Wyoming, at present working with the U. S. Army Engineers in the investigation of the water resources of California, addressed the meeting on "General Conditions in China." Professor Goodrich recently returned from a nine-years residence in China, where he was engaged in flood control work. Attendance 38.

July 22, 1930. A motion picture entitled "Power Within", showing the detailed construction and operation of a modern automobile motor, loaned by the U. S. Bureau of Mines, was shown. Attendance 36.

* For list of Local Section Officers, Rules, etc., see 1930 Year Book, p. 49.

Engineering Societies Library

The services of the Engineering Societies Library are available to all members who wish searches, copies, translations, etc., or advice on technical literature. A collection of modern books is also available for loan to members in North America, at moderate rentals. Correspondence should be addressed to the Director, Engineering Societies Library, 29 West 39th Street, New York, N. Y., who will gladly give information concerning the charges for the various kinds of work. A more comprehensive statement in regard to this matter will be found on pages 77 and 78 of the Year Book for 1930.

Book Notices*

(July 1 to July 31, 1930)

Bacteriology; A Textbook on Fundamentals. By Stanley Thomas. Second Edition. N. Y., McGraw-Hill Book Co., 1930. 301 pp., illus., 9 x 6 in., cloth. \$3.00.

This book sets forth the essential principles with applications in engineering (water supply and sewage disposal), agriculture, and the food industries.

Cost Finding for Engineers. By Charles Reittel and Clarence Van Sickle. N. Y., McGraw-Hill Book Co., 1930. 518 pp., forms, 9 x 6 in., cloth. \$5.00.

In this textbook the basic principles of general accounting technique, the fundamentals of asset valuations, the use of control accounts, and the processes of unit product cost finding are set forth.

Development of the Federal Program of Flood Control on the Mississippi River. By Arthur De Witt Frank. (Studies in History, Economics and Public Law, No. 323.) N. Y., Columbia Univ. Press, 1930. 269 pp., 9 x 6 in., cloth. \$4.25.

The engineering problem and the methods of flood control which have been advanced are described only as they have affected the development of this program. A full bibliography is included.

Gefällvermehrung bei Niederdruck-Wasserkraftanlagen. By Rudolf Gelbert. (Mitteilungen aus dem Gebiete des Wasserbaues und der Baugrundforschung, Heft 2.) Berlin, Wilhelm Ernst & Sohn, 1930. 22 pp., illus., diagrams, tab., 11 x 7 in., paper. 3,60 r.m.

Presented here are the results of tests of a method of increasing the head of low-pressure hydraulic turbines proposed by John R. Freeman, Past-President, Am. Soc. C. E., by introducing part of the surplus water, escaping over the dam, into the draft-tube of the turbine, where it reduces the discharge pressure and thus increases the effective head.

Grundlagen und Entwicklung der Energiewirtschaft Oesterreichs. By Oskar Vas. Wien, Julius Springer, 1930. 189 pp., illus., map, tab., 11 x 8 in., paper. 20.—r.m.

This comprehensive report on the power resources of Austria covers the development of the fuels, water powers, and electricity; the organization of the railroad system is described, and the laws relating to water and electricity are included.

Hilfsbuch für den Eisenbetonbau für Baumeister und Bauleiter. By Viktor Hietzgern and Arnold Ilkow. Wien, Julius Springer, 1930. 132 pp., illus., diagrams, tab., 8 x 6 in., paper. 5,80 r.m.

This is an elementary exposition covering properties of concrete, the design of reinforced concrete structures, methods of building, and the construction of walls, floors, and stairs.

* The statements made in these notices are taken from the books themselves, and this Society is not responsible for them. Unless otherwise specified, the books in this list have been donated by the publishers.

Jahrbuch der Deutschen Gesellschaft für Bauingenieurwesen, 1929; Vol. 5. Berlin, V. D. I. Verlag, 1930. 216 pp., illus., port., map, pl., 8 x 6 in., paper. 12.—r.m.

In addition to the membership list of this German Society papers are included on port warehouses, methods of tunneling for hydraulic power plants, and the forms of steel bridges. Other inclusions are statistics of the important magazines and of German students of civil engineering, and a useful list of the large bridges, buildings, water-works, sewerage systems, railroads, and hydraulic power plants built in Germany and Austria during 1929.

Mechanical Engineers' Handbook. Edited by Lionel S. Marks. Third Edition. N. Y., McGraw-Hill Book Co., 1930. 2264 pp., diagrams, tab., 7 x 5 in., fabrikoid. \$7.00.

In the new edition especial attention has been paid to the fundamental theory underlying the design and operation of machinery. Standards and practice have been brought up to date, and physical data have been revised.

Text-Book of the Materials of Engineering. By Herbert F. Moore. Fourth Edition. N. Y., McGraw-Hill Book Co., 1930. 409 pp., illus., diagrams, tab., 9 x 6 in., cloth. \$4.00.

This concise presentation of the physical properties of the common materials, with brief descriptions of their manufacture and uses is intended as a text. Several chapters have been rewritten and one on the crystalline structure of metals added.

Die Wasserkraftwirtschaft Deutschlands; Festschrift zur Tagung der II. Weltkraftkonferenz, Berlin 1930. Berlin, Deutscher Wasserwirtschafts- und Wasserkraftverband, E. V., 1930. 391 pp., illus., pl., tab., 12 x 9 in., cloth. 25.—r.m. (For sale by V. D. I. Verlag.)

This survey of the hydraulic power resources of Germany and of their present utilization has been prepared for the Second World Power Conference, by German hydraulic interests, with Government assistance. General articles deal with the fundamentals of the subject and there are detailed descriptions of hydraulic power plants.

Water Supply and Utilization. By Donald M. Baker and Harold Conkling. N. Y., John Wiley & Sons, 1930. 495 pp., illus., maps, diagrams, tab., 9 x 6 in., cloth. \$6.00.

Important results of the extensive research on hydrology during the past quarter of a century are presented from the viewpoint of the arid regions of the West. A summary of water laws is included.

Wehre und Sohlenabstürze. By Josef Einwachter. München u. Berlin, R. Oldenbourg, 1930. 59 pp., illus., diagrams, tab., 11 x 8 in., paper. 7.—r.m.

This gives the results of investigations at the Karlsruhe Hydraulic Laboratory upon the flow of water over weirs. The erosive effect of various kinds of flow is investigated, and methods of alleviating it are discussed.

Zur Frage der Bewertung von Holz- und Eisenschwellen. By Dr.-Ing. Diehl. Berlin, V. D. I. Verlag. 1930. 58 pp., illus., tab., 8 x 6 in., paper. 3,50 r.m.

This is a comprehensive discussion of steel and wood ties, based on experiences of German railways, and showing results generally favorable to the steel tie.

Additions to the Reading Room

Life Expectancy of Physical Property: Based on Mortality Laws. By Edwin B. Kurtz. N. Y., The Ronald Press Co., 1930. 219 pp., charts, diagrams, tab., 8½ x 5½ in., cloth. \$6.00. (Gift of Mr. F. J. Kenny.)

In this book, the author has applied to the life problems of physical property—structures, machinery, equipment, etc.—the principles and methods which have been so successfully used by life insurance actuaries in dealing with the problems of human mortality.

Pressure Airships. By Thomas L. Blakemore and W. Watters Pagon, M. Am. Soc. C. E. N. Y., The Ronald Press Co., 1927. 324 pp., illus., diagrams, tab., 8½ x 5½ in., cloth. \$8.00. (Gift of Mr. Pagon.)

In this volume, Part I treats of the non-rigid, while Part II relates to semi-rigid, classes of airships. It also includes a simplified method for the design of envelopes for semi-rigids. Metal clad airships requiring internal pressure are not considered, but otherwise the treatment is quite comprehensive.

Principles of Engineering Economy. By Eugene L. Grant, Assoc. M. Am. Soc. C. E. N. Y., The Ronald Press Co., 1930. 401 pp., charts, diagrams, tab., $8\frac{1}{2} \times 5\frac{1}{2}$ in., cloth. \$3.75.

The author discusses the body of principles which govern the economic aspects of an engineering decision. His chief problem is how one may judge whether any proposed course of action will prove economical in the long run as compared with other possible alternatives.

Strength of Materials: Part I, Elementary Theory and Problems; Part II, Advanced Theory and Problems. By S. Timoshenko, N. Y., D. Van Nostrand Co., Inc., 1930. 759 pp., charts, diagrams, 9×6 in., cloth, \$3.50 and \$4.50, respectively.

It is the author's aim in these books to present problems such that the student's attention will be focussed on the practical applications of the subject. Part I contains material which is covered in required courses of Strength of Materials in Engineering Schools, whereas the more advanced portions of the subject are incorporated in Part II.

Structural Aluminum Handbook. Pittsburgh, Pa., Aluminum Company of America, 1930. 119 pp., diagrams, tab., $8\frac{1}{2} \times 5\frac{1}{2}$ in., paper, \$1.00.

This first edition of the Handbook brings to the designer and builder the information needed for using aluminum structurally.

The Stadium: A Treatise on the Design of Stadiums and Their Equipment. By Myron W. Serby. N. Y. and Cleveland, Am. Inst. of Steel Construction, Inc., 1930. 64 pp., illus., diagrams, 9×6 in., cloth. \$1.50.

This book should prove of value to the structural engineer or architect, commissioned to design a steel stadium or similar structure. In addition to a complete explanation of design formulas, it includes plans, costs, equipment, and conveniences.

The Surface Waters of Michigan: Hydrology and Qualitative Characteristics and Purification for Public Use. By Robert L. McNamee, Assoc. M. Am. Soc. C. E. (Engineering Research Bulletin, No. 16.) Ann Arbor, Dept. of Eng. Research, Univ. of Michigan, 1930. 333 pp., maps, tab., 9×6 in., paper. (Gift of Mr. I. H. Walton.)

The material presented in this *Bulletin* is based on observations made during the course of investigations preliminary to the development of public water supplies in the State and represents first-hand acquaintance with the conditions described.

The Years of "86": History of a Class of the Rensselaer Polytechnic Institute of Troy, N. Y. By Albert F. Demers. Troy, N. Y., Regal Art Press, 1930. 204 pp., illus., $8 \times 5\frac{1}{2}$ in., leather comp. (Gift of John Knickerbacker, M. Am. Soc. C. E.)

In this history of the Class of 1886 the author has endeavored to present as accurate an account as possible of the career of each of the individual graduates and non-graduates of his class at Rensselaer Polytechnic Institute.

Weld Design and Production, with Particular Application to Safety and Cost. By Robert E. Kinhead. N. Y., The Ronald Press Co., 1930. 115 pp., illus., charts, diagrams, $8\frac{1}{2} \times 5\frac{1}{2}$ in., cloth. \$4.00.

This book has been written not only to bring together the basic information on welding, but to arrange it so that every new fact can be valued and given its relation to other facts. It organizes for the first time the fundamentals of welding.

Current Civil Engineering Literature

Key to Abbreviated References to Publications Indexed*

Abbreviated References.	Publication.	Place.
Am. C. Inst.....	American Concrete Institute, Journal (M.)	Detroit
A. I. E. E.....	American Institute of Electrical Engineers Journal (M.)	New York
A. R. E. A.....	American Railway Engineering Association, Proceedings (Y.)	Chicago
A. S. T. M.....	American Society for Testing Materials, Proceedings (Y.)	Philadelphia
Am. Soc. C. E.....	American Society of Civil Engineers, Proceedings (M.)	New York
Am. Soc. Mun. Impvts.	American Society for Municipal Improvements, Proceedings (Y.)	New York
Am. W. W. Assoc....	American Water Works Association, Journal (M.)	Baltimore
Am. Wood Pres. Assoc.	American Wood Preservers Association, Proceedings (Y.)	Chicago
Ann. P. et C.....	Annales des Ponts et Chaussées (Bi-M.)	Paris
Ann. T. P. Belg.....	Annales des Travaux Publics de Belgique (Bi-M.)	Brussels
Assoc. Ing. Gand....	Annales de l'Association des Ingénieurs sortis des Ecoles Spéciales de Gand (Q.)	Ghent
Bost. Soc. C. E.....	Boston Society of Civil Engineers, Journal (M.)	Boston
Can. Engr.....	Canadian Engineer (W.)	Toronto
City Plan.....	American City Planning Institute (Q.)	Boston
Comwth. Engr.....	Commonwealth Engineer (M.)	Melbourne
Conc.....	Concrete (M.)	Chicago
Cornell C. E.....	Cornell Civil Engineer (M.)	Ithaca
Dock & Harbour.....	Dock and Harbour Authority (M.)	London
Eng.....	Engineering (W.)	London
Eng. & Contr.....	Engineering and Contracting (M.)	Chicago
Eng. Inst. Can.....	Engineering Institute of Canada, Journal (M.)	Montreal
Eng. N. R.....	Engineering News-Record (W.)	New York
Engr. Soc. W. Pa.....	Engineers' Society of Western Pennsylvania, Journal (M.)	Pittsburgh
Engr.....	Engineer (W.)	London
Engrs. & Eng.....	Engineers and Engineering, Engineers' Club of Philadelphia (M.)	Philadelphia
Gas und Wasser.....	Gas und Wasserfach (M.)	Munich
Gen. Civ.....	Le Génie Civil (W.)	Paris
Gesund. Ing.....	Gesundheits Ingenieur (W.)	Munich
Inst. C. E.....	Institution of Civil Engineers Minutes of Proceedings (Q.)	London
Inst. Mun. & Co. Engrs.	Institution of Municipal and County Engineers, Journal (W.)	London
Int. Ry. Cong. Assoc.	International Railway Congress Association, Bulletin (M.)	Brussels
Land. Arch.....	Landscape Architecture (Q.)	Boston
Mech. Eng.....	Mechanical Engineering (M.), Journal of the American Society of Mechanical Engineers	New York
Mil. Engr.....	Military Engineer (Bi-M.)	Washington
Min. & Metal.....	Mining and Metallurgy (M.), American Institute of Mining Engineers	New York
N. E. W. W. Assoc....	New England Water Works Association, Journal (Q.)	Boston
N. Y. R. R. Club....	New York Railroad Club, Proceedings (M.)	Brooklyn
Oest. Ing. Arch. Ver..	Oesterreichischer Ingenieur und Architekten Verein, Zeitschrift (F.)	Vienna
Power.....	Power (W.)	New York
Public W.....	Public Works (M.)	New York
Rev. Gen.....	Revue Générale des Chemins de Fer (M.)	Paris
Ry. Age.....	Railway Age (W.)	New York
Ry. Eng. & Main....	Railway Engineering and Maintenance (M.)	Chicago
R. & S.....	Roads and Streets (M.)	Chicago
Schw. Bauz.....	Schweizerische Bauzeitung (W.)	Zurich
Sci. Am.....	Scientific American (M.)	New York
Soc. Ing. Civ. Fr.....	Société des Ingénieurs Civils de France, Mémoires et Comptes Rendus (Q.)	Paris
Tech. Gemein.....	Technisches Gemeindeblatt (F.)	Berlin
Ver. deu. Ing.....	Verein deutscher Ingenieure, Zeitschrift (W.)	Berlin
W. W. & Sewer.....	Waterworks and Sewerage (M.)	Chicago
West. City.....	Western City (M.)	Los Angeles
West. Constr. N.....	Western Construction News (F.)	San Francisco
West. Ry. Club.....	Western Railway Club, Proceedings (M.)	Chicago
West. Soc. Engrs....	Western Society of Engineers, Journal (M.)	Chicago
Zeit. Bau.....	Zeitschrift für Bauwesen (Q.)	Berlin
Z. d. Bauver.....	Zentralblatt der Bauverwaltung (W.)	Berlin

* Y = Yearly; Q = Quarterly; M = Monthly; F = Fortnightly; W = Weekly.

A. Applied Sciences

2. Graphical and Nomographical Processes

Cost-Sheets and Their Relation to Engineering Economics.* W. B. Skinkle. Engrs'. Soc. W. Pa. Apr., '30.

A Short Monograph on Nomography.* F. M. Wood. Eng. Inst. Can. June, '30.

3. Stresses and Strains

Die Anstrengungsfrage.* (The Strain Question.) G. D. Sandel. Schw. Bauz. June 28, '30.

B. Applied Mechanics

a. Mechanics of Solids (Strength of Materials)

6. Heterogeneous Solids (Reinforced Materials)

Method of Calculating Strength of Steel Beams Encased in Concrete.* O. H. Mengerling. Conc. June, '30.

New Series of Tests Compares Beam and Control-Cylinder Stresses.* Willis A. Slater and Inge Lyse. Eng. N. R. July 17, '30.

Preisaufrage der Akademie des Bauwesens aus dem Gebiete des Eisenbetonbaus.* (Award of the Prize of the Akademie des Bauwesens on Reinforced Concrete Construction.) Ellerbeck. Z. d. Bauver. June 18, '30.

b. Hydraulics

2. Physical Hydraulics

Stream-Flow Data—its Collection and Use.* H. B. Kinnison. Bost. Soc. C. E. May, '30.

The Influence of Pipe Diameter on Orifice Discharge Coefficients.* F. C. Johansen. Engr. June 20, '30.

3. Industrial Hydraulics

Small Electrically-Driven Pumping Plants.* C. A. Mackersey. Comwlth. Engr. May, '30.

Mokelumne Hydroelectric Project, California, of the Pacific Gas & Electric Company.* Philip Schuyler. West. Constr. N. May 25, '30.

Hydraulic Fill on the Ghost Power Development.* W. H. Abbott. Eng. Inst. Can. June, '30.

Water Power Resources of Canada and Their Development.* J. T. Johnston. (Paper read before World Power Conference, Berlin.) Eng. Inst. Can. July, '30.

Recent Trends in Water Power Development in Canada.* T. H. Hogg. (Paper read before World Power Conference, Berlin.) Eng. Inst. Can. July, '30.

Hydro-Electric Industry of Canada.* G. Gordon Gale. (Paper read before World Power Conference, Berlin.) Eng. Inst. Can. July, '30.

Remote Control at Muskoka Hydro Plant.* (From *Hydro Bulletin*.) Can. Engr. July 1, '30.

Trends in Water Power Development.* T. H. Hogg. (Paper read before Second World Power Conference.) Can. Engr. July 8, '30.

Power Development at South Slovan, B. C. Can. Engr. July 15, '30.

Der Entwicklungsstand der Speicherpumpen unter besonderer Berücksichtigung der Maschinen des Groszkraftwerkes Herdecke.* (The Status of the Development of the Storage Pumps, with Special Consideration of the Pumps in the Herdecke Power Plant.) W. Hahn. Ver. deu. Ing. June 21, '30.

Les Usines Hydro-Electriques de la Société des Forces Motrices de Brusio (Suisse).* (The Hydro-Electric Plants of the Société des Forces Motrices de Brusio, Switzerland.) Gen. Civ. Apr. 19, '30.

Neuere Wasserkraftanlagen in Oesterreich.* (Recent Water-Power Plants in Austria.) E. Mattern. Z. d. Bauver. Serial beginning May 28, '30.

Die Ausnutzung der Laufwasserkraft am Hengsteysee.* (Utilization of Water Powers at Hengsteysee.) O. Spetzler. Ver. deu. Ing. June 7, '30.

Wasserkraftausbau in Deutschland.* (Water Power Development in Germany.) Oesterlen. Ver. deu. Ing. June 14, '30.

Die neueste Erweiterung des Kraftwerkes Zschornowitz.* (The Latest Expansion of the Zschornowitz Power Plant.) B. Krämer. Ver. deu. Ing. June 21, '30.

4. Dams

The Cobble Mountain Dam of Springfield.* James B. Porter. Eng. & Contr. July, '30.

C. Materials of Construction and General Processes

a. Lime, Cement, Mortar, Concrete, Brick, Bitumin, Timber, etc.

Shrinkage of Concrete as a Factor in Compressive Steel Stress.* Eng. & Contr. June, '30.

Ready-Mixed Concrete at Pittsburgh.* Eng. & Contr. June, '30.

Selling Ready-Mixed Concrete in Erie.* Conc. June, '30.

b. Metals

Stahl und Eisenbeton beim Hochhausbau. (Steel and Reinforced Concrete in the Construction of Tall Buildings.) Oest. Ing. Arch. Ver. June 20, '30.

c. Preservation and Use of Materials, Painting, Waterproofing

Corrosion of Structural Steel and Steel Reinforcing Rods Encased in Concrete.* E. A. Cross. Eng. July 4, '30.

f. Rock Excavation, Mining, Rock Removal

Flexible Roof Supports in Coal Mines.* E. C. Welchel. Min. & Metal. June, '30.

g. Execution of Works, Specifications

1. Of Masonry

Reinforced Brickwork Used in Much Japanese Construction.* Eng. N. R. July 24, '30.

2. Of Concrete

How Concrete is Tested on State Highway Work.* L. H. Koenitzer. Conc. June, '30.
Decorative Effects in Concrete.* Frank R. Wicks. Eng. N. R. July 17, '30.

5. Of Reinforced Concrete

Tall Concrete Chimney Construction.* Can. Engr. June 17, '30.
La Construction en Béton Armé du Théâtre Pigalle à Paris.* (The Construction of the Pigalle Theatre in Reinforced Concrete, in Paris.) Gen. Civ. Apr. 19, '30.

h. Foundations, Bridge Piers and Abutments

The Colloidal Nature and Water Content of Clays.* H. Berridge. Eng. Serial beginning July 4, '30.

i. Piles and Pile-Driving

Tubes in Walls Permit Piledriving After Concrete Caisson Is Bottomed.* Randle B. Alexander. Eng. N. R. July 17, '30.

k. Tunnels and Tunneling-Shields

Daylighting a 1 400-Ft. Tunnel.* Ry. Age July 12, '30.

D. Highways**a. Location**

The Widening and Planning of Highways.* D. R. Lamson. R. & S. June, '30.
Ridge Route Alternate Will Improve North Entrance to Los Angeles County, California.* West. Constr. N. June 10, '30.

c. Construction

Highway Construction: Zion National Park, Utah.* H. K. Bishop. Cornell Engr. May, '30.
Penetration Macadam, Design and Construction. Some Notes on the Practice in the State of Rhode Island. C. L. Woolley. R. & S. June, '30.
Surface-Mix Type of Oiled Roads. Methods and Cost of Constructing 46 Miles of Oil-Surfaced Roads in Colorado. R. & S. June, '30.
Drainage in Road Construction.* R. & S. June, '30.
Time Studies of Highway Contract Operations.* C. F. Rogers. R. & S. June, '30.
Preparation of Asphalt Paving Mixtures.* John W. Davitt. Engrs. & Eng. June, '30.
Principles of Design of Asphalt Paving Mixtures. Prevost Hubbard. Engrs. & Eng. June, '30.
Principles of Design, Preparation and Use of Asphalt Paving Mixtures. Julius Adler. Engrs. & Eng. June, '30.
Foundations for Asphalt Pavements.* A. T. Goldbeck. Engrs. & Eng. June, '30.
Cold Laid Asphalt Pavements. A. W. Dow. Engrs. & Eng. June, '30.
Specifications for Asphaltic Concrete Pavement on Black Base Foundation. (City of Detroit, Dept. Public Works.) Engrs. & Eng. June, '30.
Quebec Provincial Highway System.* Can. Engr. June 17, '30.
Various Cold-Laid Asphalt Pavements. A. W. Dow. (Paper read before Engrs. Club of Phila.) Can. Engr. June 24, '30.
Smooth Bituminous Macadam Surfaces. B. E. Gray. (Paper read before Asphalt Paving Conference.) Can. Engr. June 24, '30.
Graphing the Unit Costs of Highway Construction.* H. K. Church. West. Constr. N. June 25, '30.
Progress of Highway Improvements Under Cleveland's Regional Plan.* J. Gordon McKay. Eng. N. R. July 3, '30.
Pavement-Curing Methods Compared on Parkway Drives.* W. Frederick Welsch. Eng. N. R. July 17, '30.
La Grenaille Saucée pour le Graviellage des Enduits de Bitume à Chaud. (Impregnated Road Metal for Gravel in Hot-Bituminous Pavements.) G. Denil. Ann. T. P. Belg. Feb., '30.

d. Maintenance

County Highway Maintenance by Contract.* A. C. White. Public. W. June, '30.
Preparation of Old Roads and Pavements for Resurfacing with Asphalt.* Dudley T. Corning. Engrs. & Eng. June, '30.
Resurfacing Streets by Heater Method.* R. A. MacGregor. Engrs. & Eng. June, '30.
Maintenance of Asphalt Pavements, Methods, Records, and Costs.* R. H. Simpson. Engrs. & Eng. June, '30.
Repair and Maintenance of Asphalt Pavements. H. W. Hughes. Engrs. & Eng. June, '30.
Maintenance of Concrete Pavements. E. J. Vaughan. (Paper read before Highway Eng. Conference, Univ. of Michigan.) Can. Engr. July 1, '30.
Thin Rock-Asphalt Surfacing Laid on Old Penetration Macadam.* Grant Faith. Eng. N. R. July 3, '30.

e. Street Cleaning, Dust Prevention, Snow Removal

Street Cleaning and Refuse Disposal.* (From report of Toronto Street Cleaning Dept.) Can. Engr. July 1, '30.

f. Tree Planting

Highway Planting.* J. P. Pillsbury. Land. Arch. Apr., '30.

g. Machinery and Tools

Machine Finishing for Asphalt Pavement in California.* C. S. Pope. Public W. June, '30.
Finishing Machines on Bituminous Pavements. C. L. Donovan. R. & S. June, '30.

The Use of Finishing Machines on Bituminous Pavements.* C. L. Donovan. Engrs. & Eng. June, '30.
 Operating Procedure in Vending Truck-Mixer Concrete.* Miles N. Clair. Eng. N. R. July 10, '30.

h. Vehicles, Automobiles, Traffic

Economics of Highway Detours.* W. A. Van Duzer. R. & S. June, '30.
 Traffic Signs, Signals and Markers. Laurence A. Lyon. (Paper read before Conference on Highway Eng. Univ. of Michigan.) Can. Engr. July 15, '30.

E. Bridges, Viaducts and Arches

b. Iron and Steel Bridges and Viaducts

Novel Construction Methods Used on Suisun Bay Bridge.* William H. Kirkbride. Ry. Age June 21, '30.
 Montreal Harbour Bridge.* Engr. June 20, '30.
 Economy in Steel Bridge Design and Erection.* William Gottlieb and C. H. Brown. West. Constr. N. June 25, '30.
 Derrick Built of Bridge Members Erects Brazilian Bridge.* Manfredo de Araujo Carvalho. Eng. N. R. July 3, '30.
 Channel Span Floated Into Place in Illinois River Bridge.* R. E. Havens. Eng. N. R. July 24, '30.

d. Concrete and Reinforced Concrete Bridges and Viaducts

Fourth Avenue Viaduct, Moose Jaw.* Can. Engr. June 24, '30.
 Concrete-Arch Mississippi Bridge at Minneapolis.* Eng. N. R. July 10, '30.

f. Suspension Bridges, Transfer Bridges

The Hudson River Suspension Bridge.* Mech. Eng. June, '30.

h. Computation, Tests, etc.

Investigation Into the Static and Dynamic Stresses in Railway Bridges. R. Desprets. Int. Ry. Cong. Assoc. May, '30.
 Reliability of Cold-Drawn Bridge Wire Assured by Recent Test.* Leon S. Moisseiff. (Abstract of paper read before Am. Soc. for Test. Materials.) Eng. N. R. July 17, '30.

x. Miscellaneous.

A Review of the Increases in Bridge Spans.* Charles E. O'Rourke. Cornell C. E. Mar., '30.

F. Inland Waters and Waterways

a. Natural Waterways (General Articles)

The Columbia River System.* G. R. Lukesh. Mil. Engr. July-Aug., '30.

b. Canals (General Articles)

Der Lippeseltenkanal Wesel-Datteln.* (The Lippeselten Canal from Wesel to Datteln.) Z. der Bauver. May 28, '30.

c. Regulation of Waterways, Volumes of Discharge, Freshets, Floods, Soundings

Stockton Deep Water Ship Channel.* W. B. Hogan. West. Constr. N. June 10, '30.
 Fabricating Fascine Mattress for Mississippi Revetment.* Eng. N. R. July 3, '30.

d. Diverting Dams, Locks, Lifts, Elevators, Inclined Planes

The Mittelland Canal and the Anderten Locks.* Eng. Serial beginning July 11, '30.
 Tests on Models of Hastings Lock and Dam.* Wildurr Willing. Eng. N. R. July 17, '30.
 Barrages "En Toit" à Déversoir Automatique.* ("En Toit" Dams with Automatic Discharge). Gen. Civ. Jun. 28, '30.

g. Consolidation of Banks, Leakage, Maintenance of Channel, Dredging

Hydraulic-Fill Levee Construction on the Mississippi.* John R. Wilbanks. Eng. N. R. Serial beginning July 17, '30.
 Design of River des Peres Drainage Channel, St. Louis, Mo.* W. W. Horner. Eng. N. R. July 24, '30.

G. Maritime Works

b. Management and Protection of Coasts, Beaches, Dunes

Der Bau der Nordost-Schutzmauer auf Helgoland.* (The Construction of the Northeast Protecting Wall on Helgoland.) Mannsdorf. Zeit. Bau. May, '30.

h. Wharves, Mooring Buoys, Harbor Equipment

Some Notes on the Design of Gravity Wharf and Dock Walls.* Dock & Harbour June, '30.
 Tilbury Passenger Landing Stage.* Engr. July 11, '30.

I. Harbors

- The Port of Genoa.* Dock & Harbour June, '30.
 Les Travaux d'Extension des Portes de Nice et de Villefranche.* (The Extension of the Ports of Nice and Villefranche.) Auguste Pawlowski. Gen. Civ. June 7, '30.
 Les Nouveaux Dock Flottants de Pauillac (Gironde.)* (The New Floating Docks of Pauillac (Gironde.)) Gen. Civ. June 21, '30.

H. Railroads, Street and Interurban Railways, Automobiles, Aeronautics**a. Railroads****1. General Articles**

- The Use of Concrete and Reinforced Concrete on Railways.* F. B. Freeman. Int. Ry. Cong. Assoc. May, '30.
 Relations Between Railways and Seaports. C. M. Jenkin-Jones. Int. Ry. Cong. Assoc. May, '30.
 Great Northern-Western Pacific Line Approved. Ry. Age June 28, '30.
 Rebuilding a Nation's Railways.* Charles Layng. Ry. Age July 5, '30.
3. Roadbed (Grading Construction Work)
 A Quest for an Ideal.* Paul Chipman. Engrs. & Eng. May, '30.
 Revising Grade Lines by String-Line Methods.* Philip Kissam. and Cral T. Hoffman. Ry. Eng. & Main. June, '30.
 Oiling the Roadbed Lays Dust on the Long Island.* Ry. Eng. & Main. June, '30.

4. Track

- Resistance of Rails Against Breakage and to Wear.* Cambournac. Int. Ry. Cong. Assoc. May, '30.
 A Square Deal for the Maintenance Man.* Walter S. Lacher and George E. Boyd. Ry. Eng. & Main. June, '30.
 Getting More Service Out of Crossties.* Ry. Eng. & Main. June, '30.
 New Rail-Renewal Practice on the Northern Pacific Railway.* Eng. N. R. July 3, '30.
 Répartition des Rails Courts Employés dans les Courbes Circulaires et les Raccords Paraboliques des Chemins de Fer. (Distribution of Short Rails Used in Circular Curves and Parabolic Branch Lines of Railroads.) Chappellet. Rev. Gen. June, '30.
6. Rolling Stock, Fuel
 Improvements in the Steam Locomotive. R. P. Wagner. Int. Ry. Cong. Assoc. May, '30.
 Locomotives of New Types; in Particular Turbine Locomotives and Internal Combustion Motor Locomotives. Paul Koller. Int. Ry. Cong. Assoc. May, '30.
 Electric Locomotives for Main Line Traction. G. Bianchi. Int. Ry. Cong. Assoc. May, '30.
 All Steel Coaches. Comparison with Vehicles Built of Wood.* Lancron. Int. Ry. Cong. Assoc. May, '30.

- Economical Traction Methods for Use in Particular Cases. O. A. Gaeremynck. Int. Ry. Cong. Assoc. May, '30.

- A Narrow-Gauge Geared Steam Locomotive.* Engr. June 13, '30.
 New Dynamometer Car Placed in Service on the Milwaukee.* Ry. Age June 28, '30.
 New Train Is Named for the Colorado State Flower.* Ry. Age June 21, '30.
 How Illinois Central Increased Average Car Load. G. E. Patterson. (Paper read before Am. Ry. Assoc.) Ry. Age July 12, '30.
 Les Chaudières à Haute Pression. Chaudières Fixés et Chaudières pour Locomotives.* (High Pressure Boilers. Stationary and Locomotive Boilers.) Gen. Civ. Serial beginning June 14, '30.

7. Uses of Electricity

- Elektrische Lokomotive mit geschweissten Rahmen und Drehgestellen.* (Electric Locomotives with Welded Frames and Trucks.) W. Reichel. Ver. deu. Ing. June 7, '30.
 Note sur les Installations Fixes de Traction Electrique de la Ligne de Culoz à Modane.* (Note on Electric Traction Installation Equipment for the Line from Culoz to Modane.) Le Touzé and Tournier. Rev. Gen. June, '30.

8. Stations, Terminals, Engine Houses, Shops

- Methods to Be Used in Marshalling Yards to Control the Speed of Vehicles Being Shunted and to Ensure They Travel on to the Lines in the Various Groups of Sidings. C. R. Byrom. Int. Ry. Eng. Cong. May, '30.
 Dedicate New Cleveland Station Today.* Walter S. Lacher. Ry. Age June 28, '30.

9. Technical and Commercial Use

- Competition of Road Transport. Alexandre Wasitynski. Int. Ry. Cong. Assoc. May, '30.

10. Accidents

- Grade Separation—Is it the Solution for Crossing Accidents? Charles W. Galloway. Ry. Age June 21, '30.

d. Street Railways, Elevated Railways, Subways**1. General Articles**

- Berliner Untergrundbahnhöfe.* (Berlin Subway Stations.) Alfred Grenander. Z. d. Bauver. June 11, '30.

5. Rolling Stock

- Le Service d'Autobus Electriques de la Ville de Lyon.* (Electric Autobus Service in the City of Lyon.) Jacques Dumas. Gen. Civ. June 14, '30.

f. Aeronautics**2. Dirigible Balloons**

- Les Progrès Récents des Dirigeables Rigides. Le Nouveau Dirigeable anglais "R 101".* (Recent Progress in Rigid Dirigibles. The New English Dirigible "R 101.") G. Delanghe. Gen. Civ. June 28, '30.

3. Aeroplanes

- The Pilot 'Phones His Airport Via Radio.* Harold Crary. Sci. Am. July, '30.
 Developments in Air-Cooled Aero-Engines. A. H. R. Fedden. (Paper read before Inst. Mech. Engrs.) Eng. July 11, '30.

I. Municipal Water-Works. Agricultural Engineering. Irrigation**a. General Articles**

- The Water Supply of Wangaratta, Victoria.* Comwlth. Engr. May, '30.
 Albany's New Water Supply.* Public W. June, '30.
 Chenery Water Supply Project of the California Water Service Company.* E. K. Barnum. West. Constr. N. June 10, '30.
 Development of Cincinnati's Water Supply.* Bert L. Baldwin. Mil. Engr. July-Aug., '30.
 Note sur les Reservoirs de Crue. (Note on Flood Reservoirs.) L.-J. Tison. Ann. T. P. Belg. Feb., '30.
 Die Gruppenwasserversorgung Friedelsheim (Rheinpfalz)* (The Friedelsheim (Rheinpfalz) Joint Water Supply.) G. J. Lehr. Gesund. Ing. June 14, '30.

c. Dams and Reservoirs

- New Pardee Dam a Triumph in Concrete Construction.* L. M. Jordan. Conc. June, '30.
 Building Reservoirs Over Coal Mines.* Public W. June, '30.
 Hydraulic Fill Construction at Cobble Mountain Dam. H. H. Hatch. Public W. June, '30.
 Storage Reservoirs in Canada.* O. O. Lefebvre. (Paper read before World Power Conference, Berlin.) Eng. Inst. Can. July, '30.
 Water Runs From Marathon to Athens.* F. D. McHugh. Sci. Am. July, '30.
 Water-Station Reservoirs on the Illinois Central Railroad.* C. R. Knowles. Eng. N. R. July 24, '30.
 Building the Mammoth Saluda Dam.* Arthur R. Wellwood. Mil. Engr. July-Aug., '30.

d. Analysis and Purification of Water

- Superchlorination of Water Supplies.* Norman J. Howard. Can. Engr. June 17, '30.
 Pre-Ammoniation at Springfield, Ill. Public W. June, '30.
 Water Contamination from Pump Packing. A. F. Mellen. (Paper read before Am. Water Wks. Assoc.) Can. Engr. June 24, '30.
 Preammoniation of Filtered Water.* J. W. Ellms. (Paper read before Am. Water Wks. Assoc.) Can. Engr. June 24, '30.
 Mosquito Control at Saluda Dam.* Eng. N. R. July 24, '30.
 Betrachtungen über Entsäuerung des Wassers an Hand graphischer Darstellungen. (Observations on the De-acidification of Water, Using Graphical Illustrations.) Paul Martiny. Gesund. Ing. June 21, '30.
 Bestimmung des biochemischen Sauerstoffbedarfes mittels der Verdünnungsmethode in vereinfachter Form. (Determination of the Biochemical Oxygen Requirement by a Simplified Form of the Dilution Method.) H. J. Meyer. Gesund. Ing. June 21, '30.

e. Distribution of Water

- The Selection and Operation of Pumping Machinery for Waterworks.* F. E. F. Durham. Eng. June 20, '30.
 Salt River Project, Arizona.* T. A. Hayden. West. Constr. N. June 25, '30.
 Technische Vorschriften für Herstellung einer Holzrohrleitung aus Dauben und Spannringen. (Technical Regulations for Building a Wooden Pipe Line of Staves and Hoops.) Schubert. Gas und Wasser May 24, '30.
 Die neue Dampfpumpmaschine des Wasserwerks Hattersheim.* (The New Steam Pumping Engine for the Hattersheim Water Works.) Viesohn. Gas und Wasser (Special No.) May 24, '30.
 Das elektrisch betriebene Wasserwerk Frankfurt (Main)-Goldstein.* (The Frankfurt (Main)-Goldstein Electrically Operated Water Works.) Viesohn. Gas und Wasser. May 31, '30.

J. Sewerage. Sewage and Refuse Disposal**a. Sewers and Drains**

- Open Cut Work for Storm Sewer Construction.* J. C. French. Eng. & Contr. June, '30.
 Southfield Road Tunnel-Sewer Failures, Detroit, Mich.* Eng. N. R. July 3, '30.

b. Sewage Disposal, Purification

- Washing Filter Stone at Liberty, New York.* Public W. June, '30.
 Sewage Disposal at Berlin.* Willem Rudolfs. Public W. June, '30.
 Studies of Biochemical Oxygen Demand of Trade Wastes.* E. F. Eldridge. Eng. N. R. July 3, '30.
 New Sludge-Removal Apparatus Developed at Milwaukee.* Darwin W. Townsend and James Brower. Eng. N. R. July 10, '30.
 Comment on Transforme les Détritus en Lumière, Force Motrice et Matériaux de Construction. (How to Convert Refuse to Light, Power and Building Materials.) M. D. Schwartzler. Soc. Ing. Civ. Fr. Nov., '29.
 Abwasserreinigung und Schlammverrieselung. (Sewage Purification and Sludge Reduction by Weathering.) Karl Buchner. Gesund. Ing. June 7, '30.
 Die Reinigung der Abwasser von Schlacht- und Viehhöfen. (Purifying the Sewage from Abattoirs and Stables.) Bützler. Gesund. Ing. June 21, '30.

c. Refuse Disposal

- Die neue Müllverbrennungsanlage in Zürich und die von derselben aus betriebene Fernheizung.* (New Refuse Incinerating Plant in Zurich and Long-Distance Heating from the Same.) M. Hottinger. Gesund. Ing. Serial beginning June 7, '30.

K. Heat Engines**a. Steam Engines, Boilers**

Centrifugal Feed Pumps for High-Pressure Boilers.* G. Weyland. Engr. June 13, '30.

b. Steam Turbines

Hochgespannter und hochüberhitzter Dampf in Kraftanlagen.* (High Pressure and Highway Superheated Steam in Power Plants.) Marguerre. Ver. deu. Ing. June 14, '30.
Neuere grosse Dampfturbinen.* (Recent Large Steam Turbines.) K. Baumann. Ver. deu. Ing. June 14, '30.

c. Gas and Oil Engines

The Lorenzen Gas Turbine and Supercharger for Gasoline and Diesel Engines.* Christian Lorenzen. Mech. Eng. July, '30.
Der Dieselmotor im Verkehr.* (The Diesel Engine in Transportation.) Sass. Ver. deu. Ing. June 14, '30.

L. Electricity**b. Distribution and Transmission of Electricity**

Generation, Transmission and Distribution of Electricity in Canada.* Julian C. Smith and C. V. Christie. (Paper read before World Power Conference, Berlin.) Eng. Inst. Can. July, '30.

Supply of Electric Power in Ontario.* F. A. Gaby. (Paper read before World Power Conference, Berlin.) Can. Engr. Serial beginning July 1, '30.

1. Power Plants

Oil Engine Driven Generating Plant at the Henningsdorf Peak Load Station.* Engr. Serial beginning June 13, '30.

Nouvelle Usine Electrique, dite Centrale de l'Ouest, de la Ville de Berlin.* (The New Electricity Works, Called the West Central, in Berlin.) Gen. Civ. June 28, '30.

2. Long Distance Transmission of Energy

A New Transmission Line Construction Post Type Towers.* Percy H. Thomas. A. I. E. E. June, '30.

3. Distribution and Wiring of Electricity

Automatic Power Supply for Steel Mill Electrification.* Robert J. Harry. A. I. E. E. June, '30.

Construction of Transmission Lines. R. E. Jones. (Paper read before Assoc. Mun. Elec. Utilities.) Can. Engr. July 15, '30.

Development in Arc Welding Methods. Can. Engr. July 22, '30.

Neuzeitliche Aufgaben der elektrischen Grossversorgung.* (Modern Problems of Electricity Supply on a Large Scale.) A. Menge. Ver. deu. Ing. June 14, '30.

x. Miscellaneous

Economic Aspects of Electrical Supply in the House and on the Farm.* F. A. Gaby. (Paper read before World Power Conference, Berlin.) Eng. Inst. Can. July, '30.

d. Mechanical Uses of Electricity**1. Electric Motors**

Entwicklungslinien des wirtschaftlichen elektromotorischen Antriebes in der Industrie.* (Lines of Development for Economic Motor Drive in Industry.) Rudolf Bingel. Ver. deu. Ing. June 14, '30.

3. Welding

Electric Welded Steel Floor Construction. Lee H. Miller. (Paper read before Am. Welding Soc.) Can. Engr. June 24, '30.

Welding Structural Steel Buildings.* Frank P. McKibben. (Paper read at World Eng. Congress, Tokyo.) Can. Engr. June 24, '30.

Welded Trusses Developed for Bridge Floor Reinforcing.* H. M. Bringhurst. Eng. N. R. July 3, '30.

f. Signals and Communication

National Forest Communication Systems.* C. M. Allen. Mil. Engr. July-Aug., '30.

M. Architecture**a. Educational, Government and Scientific Buildings**

Staatliches Hindenburg-Realgymnasium in Trier.* (The Federal Hindenburg Real-gymnasium in Trier.) Günther Hans Lehmann. Z. d. Bauver. May 28, '30.

c. Residences, Hotels

Wohnungsbauforschung.* (House Construction Research.) Karl Müller. Z. d. Bauver. June 4, '30.

e. Hospitals and Asylums

Ein neuer Krankenhausstyp zur Frischluftbehandlung. (A New Type of Hospital for Fresh-Air Treatment.) C. J. M. Schröder. Gesung. Ing. June 7, '30.

f. Factories and Mill Buildings

General Steel Castings Corporation Completes Eastern Plant.* Ry. Age June 24, '30.

I. Fire Protection

- A Survey of the 1923 Earthquake Damage to Buildings in Tokyo, Japan.* Henry D. Dewell. Eng. N. R. July 10, '30.
Tests on Concrete Frames Simulate Effects of Earthquake Action on Buildings.* Mikishi Abe. (From paper read before World Eng. Cong., Japan.) Eng. N. R. July 10, '30.

R. Landscape Engineering

- New Pioneering in Garden Design.* Land. Arch. Apr., '30.
A Preliminary Park Study of the Bad Lands of Western North Dakota.* Phelps Wyman. Land. Arch. Apr., '30.
Impressions of Garden Art in China and Japan.* Phillip H. Elwood. Land. Arch. Apr., '30.
Beautiful Roadsides.* Walter E. Burton. Sci. Am. July, '30.

S. City Planning

- Denver Makes a Plan.* Arthur Hawthorne Carhart. City Plan. April, '30.
Planning in Colorado.* Walden E. Sweet. City Plan. April, '30.
Rehabilitation of Blighted Areas: The Part of City Planning.* John Ihlder. City Plan. April, '30.
Leicester and Some of Its Recent Municipal Works.* A. T. Gooseman. Inst. Mun. & Co. Engrs. June 10, '30.
Die Besonnungsverhältnisse an Stadtstrassen und die günstigste Blockstellung.* (Sunlight Ratios in City Streets and the Most Favorable Block Position.) Paul Schmitt. Zeit. Bau. May, '30.

T. Oil and Oil Engineering

- The Water Problem in Oil and Gas Fields.* W. P. Campbell. Eng. Inst. Can. June, '30.

Engineering Societies Employment Service

The Engineering Societies Employment Service is under the joint management of the National Societies of Civil, Mining, Mechanical, and Electrical Engineers. A Chicago office is maintained in co-operation with the Western Society of Engineers, and a San Francisco office, in co-operation with the Engineers' Club of San Francisco and the California Section of the American Chemical Society. The Service is available only to the several memberships and is maintained by contributions from the Societies and their individual members who are directly benefited.

Offices.—Eastern Office, 31 West 39th Street, New York, N. Y., Walter V. Brown, Manager; Chicago Office, 205 West Wacker Drive, 1216 Engineering Building, Chicago, Ill., A. Krauser, Manager; and San Francisco Office, 57 Post Street, Room 715, San Francisco, Calif., Newton D. Cook, Manager.

Men Available.—Under this heading, brief announcements will be published without charge. These announcements will not be repeated, except on request received after an interval of one month. Notices for *Proceedings* should be addressed to Employment Service, 31 West 39th Street, New York, N. Y., and should be received prior to the first of the month.

Opportunities.—A Bulletin of engineering positions available is published weekly and may be obtained by members of the Societies concerned at a subscription rate of \$3 per quarter, or \$10 per annum, payable in advance. Positions which are not filled promptly as a result of publication in the Bulletin, may be announced herein.

Placement Fees.—The Service is operated on a co-operative basis, whereby those benefiting contribute in accordance with the following rates: One and one-half per cent. of the first year's salary for permanent positions. Temporary positions, six months or less, 3% of the total salary received, payable monthly.

Replies to Announcements.—Replies to announcements published herein, or in the Bulletin, should be addressed to the key number indicated in each case, with two two-cent stamps attached for re-forwarding, and forwarded to the Employment Service at the address given. Replies received by the Service after the positions to which they refer have been filled, will not be forwarded.

MEN AVAILABLE

CIVIL ENGINEER, Assoc. M. Am. Soc. C. E. Nineteen years' experience, the last three as estimator. Has designed reinforced concrete, structural steel, and has had charge of office, surveying, and railroad work. Knows all the principal New York City sub-contractors. A-2505.

CONSTRUCTION EXECUTIVE, Assoc. M. Am. Soc. C. E.; graduate civil engineer; age 36; married; general contractor's engineer with fifteen years' all around experience on industrial, commercial, and apartment types of buildings. Eight years with present contractor in charge of estimates and construction. A-3439.

ENGINEERING EXECUTIVE, Assoc. M. Am. Soc. C. E.; age 41; registered professional engineer, Pennsylvania; technical educa-

tion. Twenty years' broad experience, industrial, commercial projects, covering designs, estimates, specification writing, purchase of materials, equipment, physical valuations, inventories, special investigations, reports, as well as considerable commercial sales experience last eight years. Now available. Location immaterial provided salary satisfactory. B-2924.

CIVIL ENGINEER, M. Am. Soc. C. E.; graduate from leading university; age 36; married. Water-works construction, operation experience. Two years, resident engineer, water-works construction. Three years, superintendent, general manager, water, filter, power plants in city of 16 000. Eight years, superintendent and general manager, water department, city of 60 000. Desires executive position in water-works field. B-4866.

CIVIL ENGINEER, Assoc. M. Am. Soc. C. E.; hydraulic; licensed New York State. Eight years' experience; for past four years on staff of resident engineer constructing 130 000-kw. hydro-station. Power studies, reservoir operations, stream control, topographic surveys, reports, investigations, design, construction, maintenance, structural experience on substations, transmission lines, concrete and earth dams. C-2589.

CIVIL ENGINEER, Assoc. M. Am. Soc. C. E.; college graduate. Seventeen years' experience; design, construction, and maintenance; sewerage, water-works, roads, pavements, industrial buildings, docks, and piles, electrical and mechanical installations; some boiler house materials handling and other industrial engineering experience. Thoroughly trained in management, with excellent knowledge of costs. Location, anywhere in United States. C-4096.

ASSOC. M. AM. SOC. C. E.; age 40, and active. Ten years, railroad engineer on construction, grade-crossing elimination; city and municipal engineer. Construction experience and ten years as contractors' superintendent in charge of State, county, and municipal roads, bridges, storm sewers, etc. Strong record of accomplishment, desires engagement. C-5705.

CIVIL ENGINEER, Jun. Am. Soc. C. E.; age 29; single. Six months, chairman and rodman; one year, field engineer in S. Honduras, and two years, civil-mechanical engineer in Nicaragua. Immediately available. Desires field or office position in Eastern United States, Central America, or South America. C-5864.

CIVIL ENGINEER, M. Am. Soc. C. E. More than 4 years on large hydro-electric construction, cost estimating, construction plants, plant layout. Eight and one-half years, flood control, location, and right-of-way surveys and construction (4 years, division engineer). Six years, design and construction, sanitary sewers, sewage disposal plants, paving. Four years, railroad. C-5942.

CIVIL ENGINEER, Jun. Am. Soc. C. E.; Master of Science, Mass. Inst. Tech.; age 28, married; with five years' experience in design, estimates, construction, and promotion of reinforced concrete structures, mostly buildings. Now employed, but seeking connection with larger future. Available on reasonable notice. C-6499.

ENGINEER, Assoc. M. Am. Soc. C. E., Civil Engineering graduate, 1924; age 28; single; desires position as research or sales engineer. Can furnish a record satisfactory to company seeking man who has ability and who is capable of carrying responsibility. Now engaged in design and erection of bridges and buildings. C-6937.

CIVIL ENGINEER, Jun. Am. Soc. C. E.; received B. S. degree, 1929; age 24; single. Has had experience in surveying, highway and bridge construction for 1½ years; some office experience during school years. Desires position in South America. C-7632.

DESIGNER, Jun. Am. Soc. C. E.; B. S. and M. S. in C. E.; age 30; married. Three years' experience in designing, estimating, and detailing structural steel and reinforced concrete structures. Desires position as designer. C-7755.

CIVIL ENGINEER, recent graduate (Rensselaer Polytechnic Institute), desires work with a construction company; prefers location in South America. Outside experience in surveying and drafting. Speaks English, Spanish, and French. C-7758.

CIVIL ENGINEER, Jun. Am. Soc. C. E.; college graduate; age 28; single; six years' experience: two years, roads and pavements with contractor; two years, road layout and construction; and two years, layout and inspection on steam and hydro-electric plants. Will locate anywhere. C-7760.

RECENT GRADUATE, civil engineer; age 23; desirous of position with contractor or engineering firm either in field or office. Willing to start in any field of civil engineering. Location, immaterial. C-7761.

CIVIL ENGINEER, Jun. Am. Soc. C. E.; South American; age 25; language, Spanish. More than a year's experience in structural steel and six months in sewerage work. Location, New York City, or foreign, preferably South America. C-7768.

CIVIL AND STRUCTURAL ENGINEER, M. Am. Soc. C. E.; graduate, University of Wisconsin; age 48; married. Twenty-six years' railroad experience, covering general office executive work as well as design, construction, and maintenance of bridges, buildings, wharves, reinforced concrete, car ferry barges, terminal facilities, facilities for handling inflammable oils. Pacific Coast preferred. C-7782.

STRUCTURAL ENGINEER, Assoc. M. Am. Soc. C. E.; college education; age 31; married. Ten years' experience on steel and concrete for various types of structures, tall buildings, industrial buildings, bridges, subways, etc. Prefers position as designer or assistant engineer on design. C-7785.

CONSULTING ENGINEER, M. Am. Soc. C. E.; graduate engineer; American; of wide experience in connection with various industries and particularly the manufacture and fabrication of steel, desires a connection with large bank or financial institution as technical adviser. Member of various National Engineering Societies with wide acquaintance. Qualified to report on different industries. C-7790.

HYDRAULIC ENGINEER, Assoc. M. Am. Soc. C. E.; graduate; age 28; married. Six years' experience, hydraulic, hydro-electric, power investigation, economic reports. Can take charge of investigation and report on value of potential water-power sites. C-7862.

Membership

(July 1 to August 5, 1930)

Additions

MEMBERS	Date of Membership.	
	Jun.	Jan. 14, 1929
ABBETT, Robert William. Instr., Civ. Eng., Sheffield Scientific School, Yale Univ., 119 Winchester Hall, Yale Univ., New Haven, Conn.	Assoc. M.	June 9, 1930
ADAMS, James Wendell. Res. Engr., New York Dist., New York Air Terminals, New York (Res., 35-15 Ninety-fourth St., Jackson Heights), N. Y.	Assoc. M.	June 9, 1930
ALLEN, James Seguire. P. O. Box 103, Greenville, Miss.	M.	July 14, 1930
ANASTASSIADES, Demetrius Themistocles. Govt. Contr. (Dem. Th. Anastasiades & Co.), 55 University Ave., Athens, Greece.	Assoc. M.	June 9, 1930
ARANGO, Henrique Gerardo. Engr. and Archt. (Buckley, Arango & Lyons), P. O. Box 846, Panama, Panama.	Assoc. M.	June 9, 1930
ASH, Arlington Darwin. 1478 Garland Ave., Detroit, Mich.	Jun.	July 14, 1930
BANCROFT, Edward Nathaniel. Surveyor General, Surveyor General's Office, Kingston, Jamaica.	Assoc. M.	Nov. 26, 1923
BARTON, William Henry, Jr. Care, Pennsylvania Military Coll., Chester, Pa.	M.	April 21, 1930
BENSON, Mons Herman. Junior Engr., U. S. Engr. Office, U. S. Engr. Depot, Grand Haven, Mich.	Assoc. M.	May 8, 1922
BIRNBAUM, Harry. Asst. on Eng. Corps, P. R. R., 557 West 8th St., Erie, Pa.	M.	July 7, 1930
BLACKMORE, George Glover. Chf. Engr., George J. Atwell Foundation Corporation, 1 Park Ave., New York (Res., 37-33 Seventy-sixth St., Jackson Heights), N. Y.	Jun.	Feb. 10, 1930
BLAIR, Homer Orrin. Cons. Engr., 807 Puget Sound Bank Bldg., Tacoma, Wash.	Jun.	Feb. 10, 1930
BLOTE, Martin Henry. Asst. Hydr. Engr., State Dept. of Public Works, Div. of Water Resources (Res., 817 Forty-fifth St.), Sacramento, Calif.	Assoc. M.	Nov. 30, 1909
BLUNDON, Joseph Paul. Cons. Engr., Law Bldg., Keyser, W. Va.	M.	July 14, 1930
BORGWARDT, William Max. Care, Dist. Engr., U. S. Engr. Office, Vicksburg, Miss.	Jun.	Oct. 14, 1919
BRUCK, Louis William. Mgr., Structural Steel Dept., Insley Mfg. Co. (Res., 52 South Audubon Rd.), Indianapolis, Ind.	Assoc. M.	Sept. 10, 1923
BURROUGHS, Laurence Russell. Asst. Engr., Chicago Mill & Lumber Corporation, 111 West Washington St. (Res., 5321 Cornell Ave.), Chicago, Ill.	M.	July 7, 1930
CAVA, Frank John. Field Engr., Day & Zimmermann Eng. & Const. Co. (Res., 1932 South 11th St.), Philadelphia, Pa.	Assoc. M.	Feb. 10, 1930
CHESTER, George Avery. Box 2533, Stanford University, Calif.	M.	July 14, 1930
CHILDS, Leonard Chapin. Mgr., Bldg. Dept., Bates & Rogers Constr. Co., 111 West Washington St., Chicago (Res., 617 Forest Ave., Glen Ellyn), Ill.	Jun.	Mar. 15, 1926
CLAPP, Nathaniel. Laboratory Asst., Springfield Water Works, Cobble Mountain Camp, Westfield, Mass.	Assoc. M.	June 9, 1930
CLOGSTON, Perley Walter. Transitman, Kenn-Well Contr. Co. (Res., 565 Academy St., Apartment 5), New York, N. Y.	Jun.	July 14, 1930
CLYDE, George Dewey. Associate Irrig. Engr., Utah Experiment Station; Associate Prof., Civ. Eng., State Agri. Coll., Logan, Utah.	Jun.	July 14, 1930
COOK, Albert Carlton. Asst. Office Engr., State Board of Water Engrs. (Res., 105 Sparks Ave.), Austin, Tex.	Assoc. M.	Feb. 10, 1930
COOLEY, Henry Bell. 1403 Canal Bank Bldg., New Orleans, La.	Assoc. M.	Feb. 10, 1930
COOMBS, Anthony Savage. Director, Whidden-Beekman Eng. Co., 100 Arlington St., Room 707, Boston, Mass.	Assoc. M.	July 14, 1930
COX, Harry A. Designing Engr., Thebo, Starr & Anderton, Inc., 2228 Bay St., San Francisco, Calif.	Assoc. M.	July 14, 1930
DAVEY, Thomas Trude. Asst. Engr., State Dept. of Public Works, Div. of Highways, Box 199, Babylon, N. Y.	Assoc. M.	Mar. 10, 1930
DEDEL, Dirk Adrianus. 245 Wolfs Lane, Pelham, N. Y.	Assoc. M.	June 9, 1930
DRISKO, John Bucknam. Asst., Civ. Eng. Dept., Mass. Inst. of Tech., Cambridge, Mass.	Jun.	July 14, 1930
ELMENDORF, Harold Benjamin. Box 143, Mesilla Park, N. Mex.	Jun.	July 14, 1930
FIELD, Hugh Townsend. Contr. (Field & McCelvey), 1906 Main St., Lubbock, Tex.	Assoc. M.	July 14, 1930
FOWLE, Royal Edgar. With Granite Rock Co. (Res., 22 Mapes St.), Watsonville, Calif.	Jun.	July 14, 1930
FOWLER, Fred Tracy. Bridge Engr., City of Portland, 425 City Hall, Portland, Ore.	M.	Feb. 10, 1930
FRIEDMAN, Theodore William. Junior Highway Engr., Constr. Div., Bureau of Public Roads, Dept. of Agriculture (Res., 716 Nineteenth St., N. W.), Washington, D. C.	Jun.	July 14, 1930
GIRAND, James. Engr., Arizona Hydroelectric Syndicate, 405 Ellis Bldg., Phoenix, Ariz.	Assoc. M.	July 14, 1930

MEMBERS—(Continued)		Date of Membership.	
GRAY, William Judson. Engr.-Supt., Springfield City Water Co. (Res., 1103 East Elm St.), Springfield, Mo.	Assoc. M. M.	Oct. 1, 1926 July 14, 1930	
HAHN, Clifford Aylward. In Chg. of Eng. and Constr., H. J. Heinz Co., 1062 Progress St. (Res., 5911 Wellesley Ave.), Pittsburgh, Pa.	Assoc. M. M.	April 25, 1921 July 14, 1930	
HANKS, Lawrence Filler. 403 Post Office Bldg., Denver, Colo.	Jun.	May 12, 1930	
HARPER, Paul Albert. 4714 Sixth Ave., N. E., Seattle, Wash.	Assoc. M.	Feb. 10, 1930	
HARTE, Lloyd Warden. Structural Engr., Board of Education, Chicago (Res., 4941 Oakwood Ave., Downers Grove), Ill.	Assoc. M.	Jan. 13, 1930	
HARTZOG, Justin Richardson. Associate of John Nolen, 406 Abbot Bldg., Harvard Sq., Cambridge, Mass.	Assoc. M. Jun.	July 14, 1930 Oct. 1, 1913	
HAYS, James Buchanan. Care, Knoxville Power Co., Caldwell, Tenn.	Assoc. M. M.	Nov. 25, 1919 July 14, 1930	
HENRY, Rodney William. Structural Engr., Shell Oil Co., (Res., 135 Pacheco St.), San Francisco, Calif.	Assoc. M.	July 14, 1930	
HOLGREN, Philip Grant. Instrumentman, C. M. St. P. & P. R. R., Idaho Div., Room 13 Union Station, Spokane, Wash.	Jun.	Mar. 10, 1930	
HOLLAND, William Holmes. Engr., Orleans Dredging Co., Rosedale, Miss.	Assoc. M.	June 9, 1930	
HOOVER, Carswell Oran. Gen. Contr. and Industrial Engr. (Hooper & Picou), 431 Hibernia Bank Bldg., New Orleans, La.	Assoc. M.	July 14, 1930	
HUNTINGTON, Everett Samuel. Res. Mgr., The W. P. Thurston Co., Fort Slocum (Res., 35 Liberty Ave., New Rochelle), N. Y.	Assoc. M.	July 14, 1930	
HUTCHINS, Williams Rutherford. Office Engr., State Highway Dept. (Res., 934 West Culver St.), Phoenix, Ariz.	Assoc. M.	June 9, 1930	
INABA, Minoru. Draftsman, Bethlehem Steel Co. (Res., 11 Lechawewki Ave.), Bethlehem, Pa.	Jun.	June 9, 1930	
JAMES, Guy Herndon. Asst. Engr., State Highway Dept. (Res., 1404 Ashton Pl.), Oklahoma City, Okla.	Assoc. M.	Feb. 10, 1930	
JENNINGS, Robert Newton. Asst. Engr., Blucher Eng. Co., Corpus Christi, Tex.	Jun.	May 12, 1930	
JOHNSON, Albert Edwin. Associate Engr., U. S. Geological Survey, 608 City Hall, Asheville, N. C.	Assoc. M.	May 12, 1930	
JOHNSTON, Sterling. Structural Engr., McClintic-Marshall Co., Room 1225 Oliver Bldg., Pittsburgh, Pa.	M.	June 9, 1930	
JONES, Allen Arunah. Executive Engr., Fuller & McClintock, 24 Commerce St., Newark, N. J.	Assoc. M. M.	Mar. 12, 1923 Jan. 13, 1930	
JONES, Hugh. Chf. of Party, Met. Water Dist. of Southern California, Beaumont, Calif.	Assoc. M.	July 14, 1930	
JONES, James Everett. Asst. Engr., Dept. of Water and Power, Los Angeles (Res., 318 East Randolph St., Glendale), Calif.	Assoc. M.	June 9, 1930	
KEITH, Scott. Asst. Engr., Metcalf & Eddy, 1300 Statler Bldg., Boston (Res., 62 Hartford St., Newton Highlands), Mass.	Assoc. M. M.	Mar. 16, 1925 June 9, 1930	
KENDALL, Theodore Reed. Editor, <i>Contractors and Engineers Monthly</i> , 443 Fourth Ave., New York (Res., 303 South Broadway, South Nyack), N. Y.	Assoc. M.	April 25, 1921 July 14, 1930	
KETELS, Walter Richard. Res. Engr. on Constr. of Bridges, State Highway Dept., Box 922, Somerville, N. J.	Assoc. M. Jun.	July 14, 1930 Aug. 4, 1924	
KING, William Aubrey. Res. Engr., The Terrell Bartlett Engrs., Inc., 1412 Smith-Young Tower, San Antonio, Tex.	Assoc. M.	July 14, 1930	
KNOX, Wilson Homer. Asst. Engr., State Dept. of Health, Pure Oil Bldg., Columbus, Ohio.	Assoc. M. M.	Mar. 7, 1921 June 9, 1930	
KOSCHES, Reuben. Asst. Designing Engr., Board of Transportation (Res., 895 West End Ave.), New York, N. Y.	Assoc. M.	July 14, 1930	
LAUENSTEIN, Robert Frederick. Asst. Engr., Chas. H. Lee, San Francisco (Res., 1611 Central Ave., Alameda), Calif.	Assoc. M.	Feb. 10, 1930	
LEVIE, William Anthony. Care, Allied Engrs., Inc. Birmingham, Ala.	Assoc. M.	July 14, 1930	
LINDSEY, Ray Vernett. State Maintenance Engr., State Highway Comm., State Capitol (Res., 1423 West 33d St.), Oklahoma City, Okla.	Assoc. M. M.	June 16, 1924 July 14, 1930	
LOEHLER, Paul Fredrick. Gen. Mgr. and Supt. of Constr. G. G. Loehler Constr. Co., Inc. (Res., 4007 Connecticut Ave., N. W., Apartment 411), Washington, D. C.	Assoc. M.	July 14, 1930	
MCCAUSTLAND, Gwynne Gravelle. City Plan Engr., City Plan Comm., City Hall, Kansas City, Mo.	Assoc. M. M.	Oct. 12, 1925 July 14, 1930	
MAGNUSON, Francis Jose. Asst. Engr., Office of City Engr. (Res., 1422 Hewitt Ave.), St. Paul, Minn.	Assoc. M.	July 14, 1930	
MARKS, Morris Fremder. Chf. Engr., W. J. Knight & Co., 903 Wainwright Bldg. (Res., 721 Limit Ave., University City), St. Louis, Mo.	Assoc. M. M.	Nov. 9, 1920 July 14, 1930	
MEAD, Warren Judson. Prof., Geology, Univ. of Wisconsin, Science Hall, Univ. of Wisconsin, Madison, Wis.	Affiliate Jun.	June 9, 1930 Jan. 17, 1927	
MEBUS, George Brinker. 217 North Easton Rd., Glenside, Pa.	Assoc. M.	June 9, 1930	
MILLARD, Lewis Clyde. Chf. Bldg., Insp., Upper Darby Township Municipal Bldg., Upper Darby, Pa.	Assoc. M.	July 14, 1930	
MONROE, Clarence Albert. With Manhasset Civ. Engrs., Inc. 150 Plandome Rd., Manhasset, N. Y.	Jun.	Jan. 13, 1930	

MEMBERS—(Continued)		Date of Membership.	
MOORE, Joseph Henry. Care, Seabrook Eng. Corporation Hotel Savoy, Moscow, Union of Socialist Soviet Republics.....	Assoc. M.	June 9, 1930	
MOTT, Albert Gifford. Chf. Engr., California R. R. Comm., 504 State Bldg., San Francisco, Calif.....	M.	July 14, 1930	
MURRAY, Howard Slater. Designing Engr., Port of Oakland, 2920 Delaware St., Oakland, Calif.....	Jun.	Nov. 12, 1928	
	Assoc. M.	June 9, 1930	
NIMMO, William Hogarth Robertson. Designing Engr., Main Roads Comm., Albert St., Brisbane, Queensland, Australia..	Assoc. M.	April 2, 1913	
	M.	April 21, 1930	
OLIVER, Elmer Lewis. Engr. in Chg., Local Impvt. Div., Bureau of Design and Constr., Dept. of Public Works, 52 City Hall, Rochester, N. Y.....	Assoc. M.	July 14, 1930	
OSBORN, Vernon Francis. Junior Project Engr., State Highway Dept.; 610 West 4th St., McCook, Nebr.....	Jun.	June 9, 1930	
OXFORD, John W. Jr. Orrville, Ala.....	Jun.	July 14, 1930	
PADDOCK, Austin Joseph. With Am. Bridge Co., 2087 Beechwood Boulevard, Pittsburgh, Pa.....	Jun.	May 12, 1930	
PEASE, Wesley Oliver. County Surv., Montgomery County, Court House, Dayton, Ohio.....	M.	June 9, 1930	
PERKINS, Wayne Arthur. Hydr. Engr., Office of State Engr. (Res., 3102 Montgomery Way), Sacramento, Calif.....	Assoc. M.	Oct. 1, 1928	
	M.	Mar. 10, 1930	
PHILIPS, Hector Somerville. Designing Engr., City Engr.'s Office, Hamilton, Ont., Canada.....	Assoc. M.	May 31, 1918	
	M.	July 7, 1930	
PORTER, Robert Marvin. Engr., Richland County, 10 Hook Bldg., Columbia, S. C.....	Assoc. M.	July 14, 1930	
QUINN, John Ignatius. Dist. Bridge Engr., U. S. Bureau of Public Roads, Saunders-Kennedy Bldg., Omaha, Nebr.....	Assoc. M.	Aug. 31, 1915	
	M.	June 9, 1930	
REEVES, Gustave Felix. Structural Designer, United Engrs. and Constructors, Inc. (Res., 6215 Catherine St.), Philadelphia, Pa.....	Assoc. M.	July 14, 1930	
ROSENGARTEN, Walter Edward. Township Engr., Lower Merion Township, Ardmore (Res., 701 Penfield Ave., Penfield, Upper Darby P. O.), Pa.....	Assoc. M.	July 11, 1921	
	M.	July 7, 1930	
RULE, George Benjamin. Pres., George B. Rule, Inc. (Res., 203 North 3d Ave.), Highland Park, N. J.....	Assoc. M.	June 9, 1930	
SAMOILOFF, Alexander Alexander. 314 Highland Ave., Winchester, Mass.....	Jun.	July 14, 1930	
SAMUEL, Thomas Duncan, Jr. Chf. Engr. and Supt., City Water Dept. (Res., 442 West 68th St.), Kansas City, Mo.....	Assoc. M.	Mar. 15, 1926	
	M.	July 14, 1930	
SARGENT, Joseph Andrews. Care, Am. Soc. C. E., 33 West 39th St., New York, N. Y.....	Assoc. M.	Oct. 2, 1901	
	M.	April 21, 1930	
ECHELENZ, Harry Edward. With Pacific Flush-Tank Co., 4241 Ravenswood Ave., Chicago, Ill.....	Jun.	May 12, 1930	
SHULTS, Clarence James. Engr., Street Design, Office of City Engr. (Res., 4343 North Griffin Ave.), Los Angeles, Calif....	Assoc. M.	Jan. 14, 1924	
	M.	July 14, 1930	
SILVERMAN, David. Designer, Gibbs & Hill, Pennsylvania Station (Res., 629 West 170th St.), New York, N. Y.....	Jun.	July 14, 1930	
SINGLETON, Jack. Engr., Am. Inst. of Steel Constr., 640 New England Bldg., Topeka, Kans.....	Assoc. M.	Jan. 15, 1923	
	M.	July 7, 1930	
SMALL, Kenneth Irving. Mgr., New York Office, Chicago Bridge & Iron Works, 30 Church St., New York, N. Y.....	M.	July 14, 1930	
SMITTEEN, Howard Macalpin. Bridge Engr., W. P. R. R.; 1629 Josephine St., Berkeley, Calif.....	M.	June 9, 1930	
SNADER, David Levi. Prof., Civ. Eng., Stevens Inst. of Technology, Hoboken, N. J.....	M.	July 14, 1930	
SOLER, Eduardo, Jr. Calle Duarte 19, Santo Domingo, Dominican Republic.....	Assoc. M.	June 9, 1930	
SOUTHWORTH, Edwin Warren, Jr. Instrumentman, Met. Dist., Water Supply Comm.; 22 Oxford St., Winchester, Mass.....	Jan.	June 9, 1930	
SPIELMAN, John Van Voorhies. Res. Engr., Montecito County Water Dist. (Res., 533 San Ysidro Rd.), Santa Barbara, Calif.	Assoc. M.	July 14, 1930	
STANDLEY, David. Engr., Edwards & Flood, Inc., 1 Hanson Pl., Brooklyn, N. Y.....	Jun.	Oct. 15, 1923	
	Assoc. M.	May 12, 1930	
STURTEVANT, Thomas Yeadon. Engr., Stanford Oil Co. of California, San Francisco (Res., 1130 Randleigh Way, Piedmont), Calif.....	Jun.	Mar. 10, 1930	
THOMAS, Joseph Albert. Gen. Supt., Manila Elec. Co., Manila, Philippine Islands.....	Jun.	Nov. 9, 1920	
	Assoc. M.	Feb. 25, 1924	
TRIMBLE, Ralph McCoy. Associate Prof., Eng., Univ. of North Carolina, Chapel Hill, N. C.....	M.	April 21, 1930	
	Jun.	July 12, 1926	
	Assoc. M.	Jan. 13, 1930	
VAUGHAN, James Waverley. 4819 Gaston Ave., Dallas, Tex.....	Jun.	Jan. 13, 1930	
VOSBURGH, James Cooper. With Chicago Bridge & Iron Works, Drawer C, Woodlawn Station, Birmingham, Ala.....	Assoc. M.	June 9, 1930	
WARD, Joseph Eugene. Cons. Civ. Engr. (Montgomery & Ward), 545 Harvey-Snyder Bldg., Wichita Falls, Tex.....	Assoc. M.	July 9, 1923	
	M.	July 7, 1930	
WARTUR, Marcus Harry. 101 Terrace Ave., Hempstead, N. Y.....	Jun.	Jan. 13, 1930	
WATTERSON, Robert Smiley, Jr. With Postal Telegraph Cable Co., 67 Broad St., New York (Res., 3149 Twenty-ninth St., Apartment D-7, Astoria), N. Y.....	Jun.	May 12, 1930	

MEMBERS—(Continued)		Date of Membership.
WENDT, James Robert, Sr. Parish Highway Engr., Bossier Parish, Box 84, Benton, La.	Assoc. M.	Aug. 31, 1925
WENTZ, Clarence Arthur. 1826 Crawford Rd., Cleveland, Ohio. . .	M.	June 9, 1930
WHITE, Omar Washburn. Asst. City Engr. (Res., 228 North Rankin St.), Appleton, Wis.	Jun.	July 14, 1930
WHITNEY, Edward Nelson. Care, Harza Eng. Co., 20 North Wacker Drive, Room 1410, Chicago, Ill.	Assoc. M.	April 7, 1930
WHITNEY, Howard Erwin. Constr. Engr., Pennsylvania Water & Power Co. and Safe Harbor Water Power Corporation, Safe Harbor, Pa.	Assoc. M.	July 14, 1930
WOOD, Harland George. Constr. Engr., Latino-Americano Constr. Co., Apartado 16, Alajuela, Costa Rica.	Jun.	Mar. 14, 1927
WOOD, Howard Charles. Asst. Designing Engr., Bridges, State Dept. of Public Works, Div. of Highways (Res., 1515 Tenth St.), Sacramento, Calif.	Assoc. M.	July 14, 1930
YORT, Anders Peter. Designer, Cincinnati Union Terminal Co. (Res., 2563 Euclid Ave.), Cincinnati, Ohio.	Assoc. M.	June 9, 1930
YOUNG, William Hugh. Asst. to Western Mgr., Raymond Concrete Pile Co., 2024 Hunter-Dulin Bldg., San Francisco, Calif.	Assoc. M.	July 14, 1930
	Assoc. M.	June 9, 1930

Reinstatements

ASSOCIATE MEMBERS	Date of Reinstatement.
BUTLER, Millard Angle.	July 22, 1930

Resignations

ASSOCIATE MEMBERS	Date of Resignation.
GORNTON, Earl Douglas.	Aug. 5, 1930

JUNIORS

CHAPIN, Richard Norman.	July 31, 1930
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Deaths

ADEY, William Henry. Elected Junior, February 4, 1896; Associate Member, December 3, 1902; Member, May 8, 1922; died May 17, 1930.
 ANDERSON, Justin Kenderdine. Elected Member, September 2, 1914; died February 15, 1930.
 BASSEL, Robert. Elected Member, May 2, 1888; died July 2, 1930.
 GIDEON, Francis Clyde. Elected Member, June 7, 1926; date of death unknown.
 HAZEN, Allen. Elected Associate Member, June 3, 1896; Member, March 6, 1900; died July 26, 1930.
 HILL, John Willmuth. Elected Junior, February 3, 1875; Member, April 5, 1876; died June 22, 1930.
 KNOUSE, Homer Virgil. Elected Associate Member, May 7, 1913; Member, April 26, 1921; died July 6, 1930.
 ROUSSEAU, Harry Harwood. Elected Junior, June 6, 1893; Associate Member, April 4, 1900; Member, January 18, 1916; died July 24, 1930.
 SHAILER, Robert Ames. Elected Member, March 3, 1880; died July 7, 1930.
 SMITH, Bronson Hasbrouck. Elected Member, November 26, 1923; died June 6, 1930.
 WARDLE, Charles William. Elected Associate Member, January 16, 1928; died January 10, 1929.
 WILLIAMS, Chauncey Grant. Elected Associate Member, February 6, 1895; Member, October 7, 1903; died July 8, 1930.
 WILSON, John Calvin. Elected Associate Member, August 31, 1925; died June 20, 1930.

Total Membership of the Society, August 5, 1930

Members	5 789
Associate Members	6 170
Corporate Members	11 959
Honorary Members	17
Juniors	2 425
Affiliates	141
Fellows	7
Total	14 549

Report of Tellers on Second Ballot for Official Nominees

"33 West 39th Street, New York, N. Y.,

"October 15, 1930.

"TO THE SECRETARY,

AMERICAN SOCIETY OF CIVIL ENGINEERS:

"The Tellers appointed to canvass the Second Ballot for Official Nominees report as follows:

"Total number of ballots received..... 3 124

"Deduct:

Ballots from members in arrears of dues.....	52
Ballots not signed.....	19
Ballots signed by proxy.....	1
Ballots with printed signature.....	2
Ballots from non-corporate members.....	1
Ballots from members voting from wrong District.....	2
Ballots from members who have died since voting....	4

"Total not entitled to vote..... 81

"Ballots canvassed..... 3 043

"For Vice-President, Zone II:

J. N. Chester.....	817
Blank	57
Void	0

Total 874

"For Vice-President, Zone III:

George H. Fenkell.....	509
Henry M. Waite.....	594
Blank	0
Void	2

Total 1 105

"For Directors, District 1:

(Two to be elected)

L. G. Holleran.....	516
C. A. Mead.....	533
Blank	6
Void	0

Total *591

"For Director, District 6:

Edwin K. Morse.....	147
Thomas J. Wilkerson.....	109
Blank	1
Void	2

Total 259

"For Director, District 2:

Henry R. Buck.....	233
Blank	1
Void	0

Total 234

"For Director, District 10:

H. D. Mendenhall.....	221
D. H. Wood.....	44
Blank	0
Void	3

Total 268

"For Director, District 13:

Frederick C. Herrmann.....	238
Blank	1
Void	0

Total 239

"Respectfully submitted,

"DEAN G. EDWARDS, *Chairman*,

"W. L. CADWALLADER,
HARRY M. NELSON,

"THOMAS K. A. HENDRICK,
R. L. SENIOR,

HENRY W. TROELSCH,

"Tellers."

* Total number of valid ballots cast, on most of which were two nominations for Director.